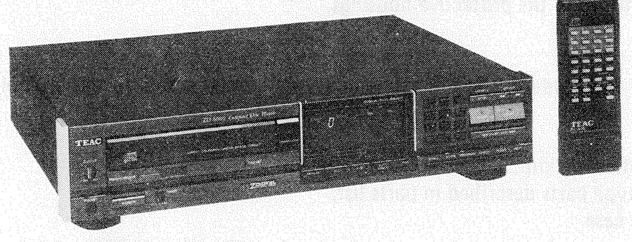
TEAC®


TEAC
ZD-6000 Compact Disc Player
TEAC

SERVICE MANUAL

ZD-6000/ZD-4000

Compact Disc Player

COMPACT
disc
DIGITAL AUDIO

Effective: December 1986 600443

5704035200

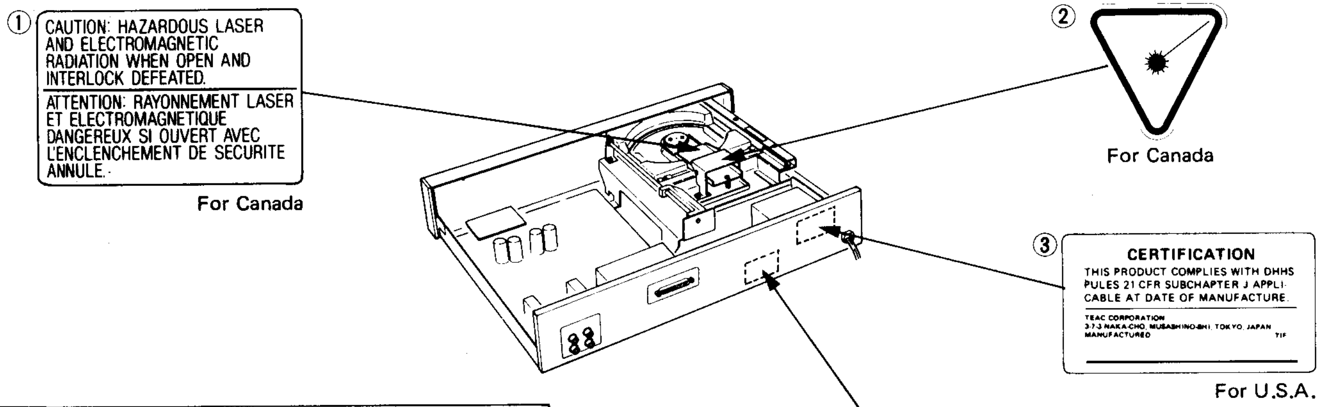
1 SAFETY INFORMATION

This product has been designed and manufactured according to FDA regulations "title 21, CFR, chapter 1, subchapter J, based on the Radiation Control for Health and Safety Act of 1968", and is classified as class 1 laser product. There is not hazardous invisible laser radiation during operation because invisible laser radiation emitted inside of this product is completely confined in the protective housings.

The label required in this regulation is shown ③.

CAUTION

- If you remove the above-mentioned housings under the operating state of the product, there is a possibility of human access to the invisible laser radiation emitted from the optical pickup.
  Pay careful attention, not to let the invisible laser beam enter into your eyes.
- If you find a troubled state of the laser diode, change to the specified new optical pickup.
- If you find a troubled state of the safety interlock parts, change to the same type parts described in parts list.
- ALPC (Automatic Laser Power Control) circuit shall not be readjusted in any case.



① CAUTION: HAZARDOUS LASER AND ELECTROMAGNETIC RADIATION WHEN OPEN AND INTERLOCK DEFEATED.
ATTENTION: RAYONNEMENT LASER ET ELECTROMAGNETIQUE DANGEREUX SI OUVERT AVEC L'ENCLENCHEMENT DE SECURITE ANNULE.

For Canada

③ **CERTIFICATION**
THIS PRODUCT COMPLIES WITH DHHS RULES 21 CFR SUBCHAPTER J APPLICABLE AT DATE OF MANUFACTURE.
TEAC CORPORATION
3-7-3 NAKA-CHO, MUSASHINO-SHI, TOKYO, JAPAN
MANUFACTURED TIF

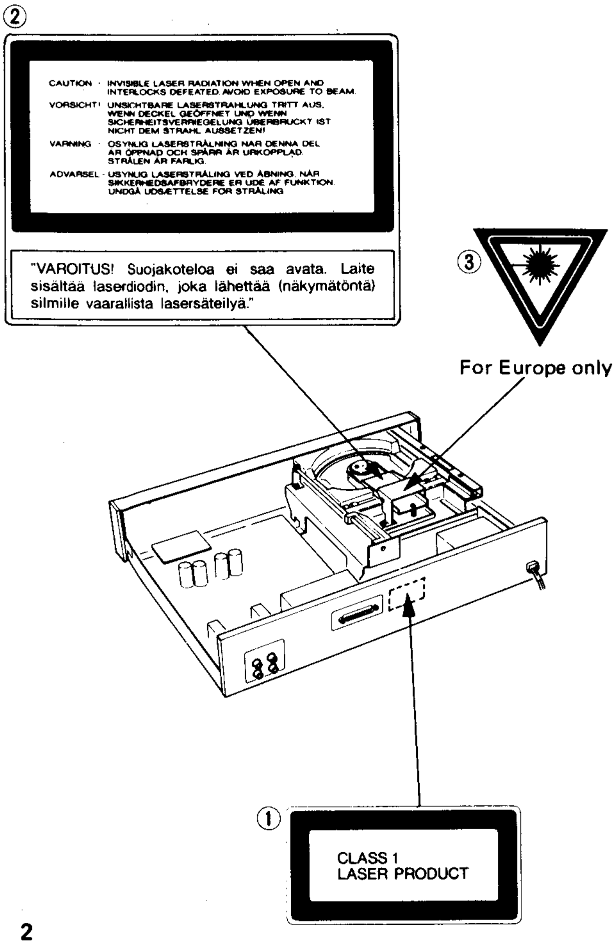
For U.S.A.

Optical pickup : Type : MLP-3C
Manufacturer: Mitsubishi Electric Corporation
Laser output : 0.5 mW on the objective lens
Wavelength : 780 nm ±25 nm

④ CERTIFIED ONLY TO CANADIAN ELECTRICAL CODE.
CERTIFIE EN VERTU DU CODE CANADIEN DE L'ELECTRICITE SEULEMENT.

For Canada

•CAUTION •ACHTUNG •OBSERVERA •ADVARSEL



②
CAUTION - INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED. AVOID EXPOSURE TO BEAM.
VORSICHT! UNSICHTBARE LASERSTRAHLUNG TRITT AUS, WENN DECKEL GEÖFFNET UND WENN SICHERHEITSVERRIEGELUNG ÜBERBRÜCKT IST. NICHT DEM STRAHL AUSSETZEN!
VARNING - OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRR ÄR URKOPPLAD. STRÅLEN ÄR FARLIG.
ADVARSEL - USYNLIG LASERSTRÅLING VED ÅBNING, NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSÆTTELSE FOR STRÅLING

"VAROITUS! Suojakoteloa ei saa avata. Laite sisältää laserdiodin, joka lähettää (näkymätöntä) silmille vaarallista lasersäteilyä."

① CLASS 1
LASER PRODUCT

1 THIS LABEL IS ATTACHED TO THE PLACE AS ILLUSTRATED TO INFORM THAT THE APPARATUS CONTAINS A LASER COMPONENT.

2 THIS LABEL IS ATTACHED TO THE INSIDE OF THE TOP COVER AS ILLUSTRATED, SO THAT ANY FURTHER PROCEDURE WILL BRINGING THE USER INTO EXPOSURE WITH THE LASER BEAM.

CAUTION—USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

1 DIESE AUFKLEBEMARKE IST AN DEM IN DER ABBILDUNG GEZEIGTEN ORT ANGEBRACHT UM DARAUF HINZUWEISEN, DASS SICH IM INNERN DES GERATS EINE LASER-KOMPONENTE BEFINDET.

2 DIESE AUFKLEBEMARKE IST WIE ABGEBILDET AN DER INNENSEITE DER OBEREN ABDECKUNG ANGEBRACHT UM DAVOR ZU WARNEN, DASS DER BENUTZER BEI WEITERGEHENDEN EINGRIFFEN LASERSTRAHLEN AUSGESETZT IST.

ACHTUNG—VERWENDUNG VON REGLERN, EINSTELLUNGEN ODER EINGRIFFE VON ANDERER NATUR ALS HIERIN ANGEGEBEN KANN DIE AUSSETZUNG GEFÄHRLICHER STRAHLENDOSEN NACH SICH ZIEHEN.

1 PÅSKRIFTEN SITTER PÅ APPARATEM SOM VISAS SOM EN UPPMANING OM ATT APPARATEN OMFATTAR EN INBYGGD LASERKOMPONENT.

2 PÅSKRIFTEN HAR PLACERATS PA INSIDAN AV HÖLJET OCH VARNAR MOT YTTERLIGARE INGREPP I APPARATEN, EFTERSOM DETTA KAN MEDFÖRA UTSÄTTANDE FÖR LASERSTRÅLAR.

VARNING—ANVÄNDNING AV KONTROLLER, JUSTERINGAR ELLER ANDRA ÅTGÄRDER UTÖVER DET SOM TAS UPP HÄR KAN INNEBÄRA RISK FÖR RADIOAKTIV STRÅLNING.

1 DETTE MÆRKAT ER ANBRAGT SOM VIST I ILLUSTRATIONEN FOR AT ADVARE BRUGEREN OM AT APPARATET INDEHOLDER EN LASERKOMPONENT.

2 DETTE MÆRKAT ER SOM VIST PÅ ILLUSTRATIONEN ANBRAGT PÅ INDERSIDEN AF TOPDÆKSLET FOR AT ADVARE BRUGEREN OM AT YDERLIGERE FREMTRÆNGEN VIL VÆRE FORBUNDET MED FARE FOR AT UDSÆTTE SIG FOR LASERSTRÅLING.

ADVARSEL—BETJENING AF ANDRE KONTROLLER OG REGULATORER ELLER BENYTTELSE AF ANDRE FREMGANGSMÅDER END BESKREVET HERI ER FORBUNDET MED FARE FOR UDSÆTTELSE FOR LASERSTRÅLING.

③ "VAROITUS! SUOJAKOTELOA EI SAA AVATA. LAITE SISÄLTÄÄ LASERDIODIN, JOKA LÄHETTÄÄ (NÄKYMÄTÖNTÄ) SILMILLE VAARALLISTA LASERSÄTEILYÄ."

2 SPECIFICATIONS

仕様

AUDIO

Number of Channels 2

Frequency Response 0 – 20,000 Hz ±0.3 dB

Signal-to-Noise Ratio Better than 96 dB

Dynamic Range Better than 96 dB

Harmonic Distortion 0.0025 % (1 kHz)

Wow and Flutter Unmeasurable (Quartz accuracy)

Channel Separation Better than 95 dB (0 Hz – 20,000 Hz)

Output 2.5 V (Fixed), 68 mV – 2 V (Variable)

PICKUP

Type Optical 3-beam laser pickup

Object Lense Drive System 2-dimensional parallel drive

Laser Type AlGaAs type semiconductor laser

Wave-length 780 nm

SIGNAL FORMAT

D/A Converter 16 bit liner twin monaural construction

Error Correction CIRC (Cross Interleave Read Solomon Code)

Sampling Frequency 44.1 kHz

Channel Modulation Code EFM (Eight to Fourteen Modulation)

Channel Bit Rate 4.3218 Mb/sec

Filter Oversampling digital filter +8th order Bessel type analog filter

GENERAL

Power Requirements 100/120/220/240 V AC, 50/60 Hz (General Export Model)
120 V AC, 60 Hz (U.S.A./Canada Model)
220 V AC, 50 Hz (Europe Model)
240 V AC, 50 Hz (U.K./Australia Model)

Power Consumption 23 W

Dimensions (W x H x D) ZD-6000: 445 x 99 x 342 mm (17-1/2" x 3-7/8" x 13-7/16")
ZD-4000: 445 x 99 x 342 mm (17-1/2" x 3-7/8" x 13-7/16")

Weight (net) ZD-6000: 10.2 kg (22-1/2 lbs)
ZD-4000: 10.1 kg (22-1/4 lbs)

Standard Accessories Wireless Remote Control Unit (RC-305), RCA Pin Cord, Batteries (SUM-4, "AAA", "R03" type) x 2

DISC

Type Compact disc

Playing Time Approx. 60 min

Diameter 120 mm

Thickness 1.2 mm

Scanning Velocity 1.2 – 1.4 m/sec

Track Pitch 1.6 µm

- Improvements may result in specification or feature changes without notice.

〈オーディオ〉

オーディオチャンネル数	2チャンネル
周波数特性	0～20,000Hz±0.3dB
SN比	96dB以上
ダイナミックレンジ	96dB以上
高調波歪率	0.0025%以下(1kHz)
ワウ・フラッター	測定限界値以下(水晶発振精度)
チャンネルセパレーション	95dB以上(0Hz～20kHz)
出力	●2Vrms(FIXED) ●55mVrms～2Vrms (VARIABLE)

〈ピックアップ〉

方式	対物レンズ駆動, 光学式3ビーム
対物レンズ駆動方式	2次元平行駆動
光源	半導体レーザー
波長	780nm

〈信号フォーマット〉

標本化周波数	44.1kHz
量子化ビット数	16ビットリニア/チャンネル
伝送レート	4.3218Mb/sec
変調方式	EFM
エラー訂正方式	CIRC
フィルター	オーバーサンプリング·デジタルフィルター+7次アナログフィルター

〈一般〉

電源	100V AC 50/60Hz
消費電力	20W
外形寸法(W×H×D)	●ZD-6000 445×99×342mm ●ZD-4000 445×99×342mm
重量	●ZD-6000 : 10.2kg ●ZD-4000 : 10.0kg

〈ディスク〉

方式	コンパクトディスク
演奏時間	約60分
ディスク直径	120mm
ディスク厚	1.2mm
線速度	1.2～1.4m/sec
トラックピッチ	1.6µm

〈リモコン RC-305〉

リモコン方式	赤外線パルス方式
電池	DC 3V 乾電池SUM-3型 2個使用
外形寸法(W×H×D)	60×18×165mm(突起部含む)
重量	130g(乾電池含む)

付属品

●ワイヤレス・リモコンRC-305×1
●ピンプラグコード×1
●乾電池 (単3, SUM-3)×2
●取扱説明書

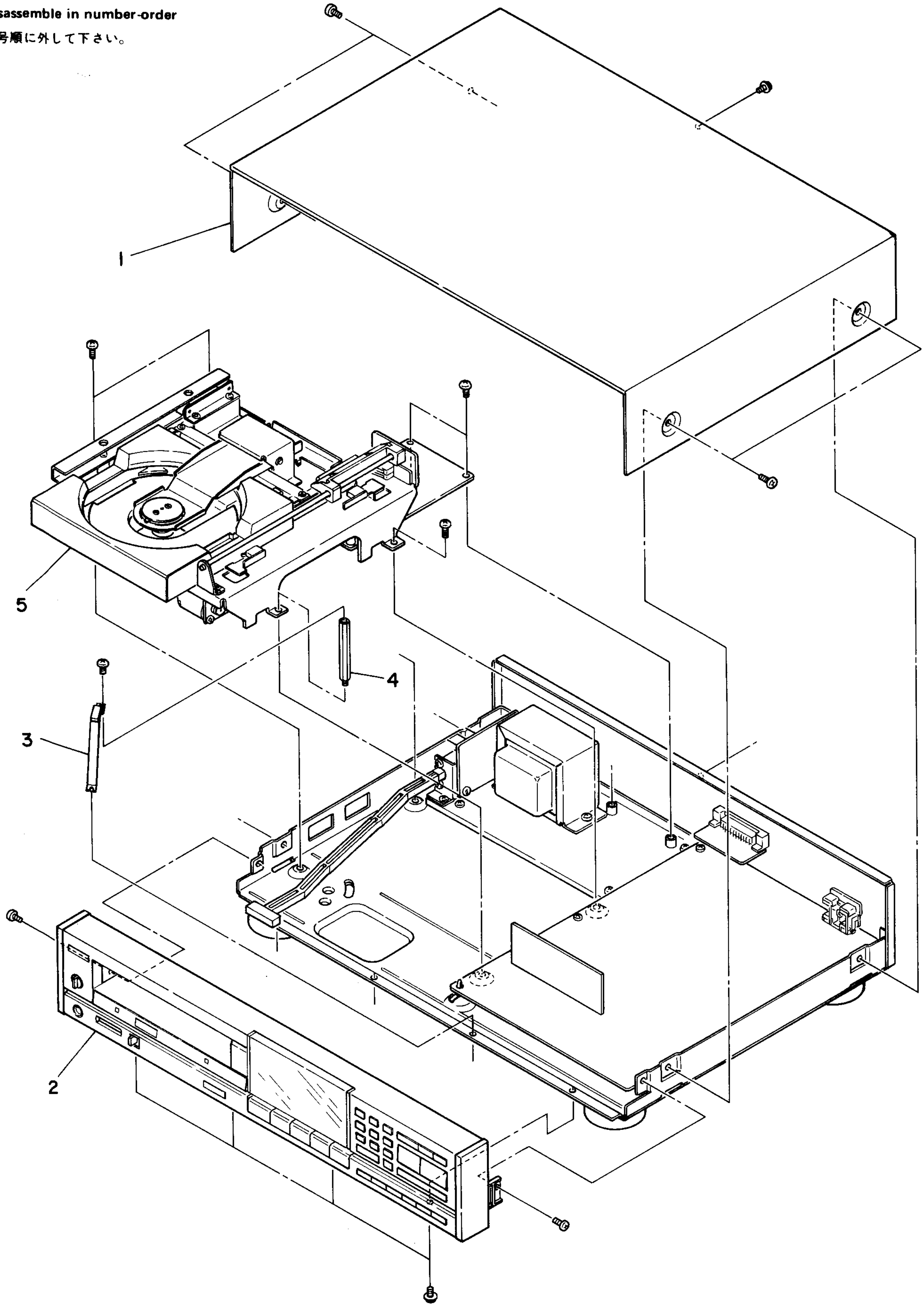
＊仕様および外観は, 改善のため予告なく変更することがあります.

3 CASE AND FRONT PANEL REMOVAL

外装部品の外し方

Disassemble in number-order

番号順に外して下さい。



4 ADJUSTMENT AND CHECKS

調整と確認

Notes:

1. How to handle the pickup support assembly
(1) Do not apply shocks to the assembly.
(2) Do not touch the object lens.
(3) Do not place the assembly in a place subject to excessive dust,heat or moisture.
(4) Do not disassemble.
(5) During the transportation, mounting and dismounting of the assembly, support with your fingers it at points A and B as shown in Fig. 4-1.
Be particularly careful not to touch the actuator, AL PC board, photosensor and LD plate and do not apply force to them.

2. Cleaning the object lens
(1) If the objectd lens becomes dirty, playback will deteriorate.
(2) To clean the lens, moisten KODAK cleaning tissue in isopropyl alcohol and wipe the lens gently.

3. To prevent the laser diodes for deteriorating and protect them from destruction
(1) Do not touch the laser diode terminal, the AL PC board and circuit components.
(2) While adjustings the laser pickup, be sure to ground instruments connected and your body to prevent static electricity destroying the laser diodes(See Fig. 4-2).
(3) Laser beams are similar to infrared rays. Do not look at the beams directly and keep your eyes at least 30 cm away from them.

4. Handing Hall elements
When adjusting the pickup support assembly, be careful that static electricity does not destroy the Hall elements.

When servicing these models, it is recommended to remove the loading mechanism before replacing the pickup support assembly.
Remove the loading mechanism and other parts referring to "Section 3. How to Remove External Parts."

【注意事項】

1. P.U.サポート Ass'y の取扱
(1) 落下，衝撃を加えない.
(2) 対物レンズには手を触れない.
(3) ゴミの発生する場所に放置しない.
(4) 高温・多湿を避ける.
(5) 分解はしない.
(6) 持ち運び，取り付け，取り外しの際は，Fig.4-1 のAとB部で支えてください.
特に，アクチュエータ，ALPC基板，光検知器部，LDプレート部は，手を触れたり力を加えないこと.

2. 対物レンズの清掃
(1) 対物レンズに汚れが付くと，再生能力が劣化します.
(2) 清掃にあたっては，レンズ・クリーニング・ペーパー(KODAK社製等）にイソプロピル・アルコールを浸して使用し，液の残りがないように拭きとってください.

3. レーザー・ダイオードの劣化，破壊防止
(1) レーザー・ダイオード端子，及び ALPC 回路，回路部品に直接手を触れぬこと.
(2) 光ピックアップを取り扱う際は，測定器等に確実なアースを取ること．又，人体アースを行い，静電気破壊を防止してください.（Fig. 4-2 参照）
(3) レーザー光は近赤外線で目視は困難なので，目の安全のため，目を対物レンズから 30cm 以上離してください.

4. ホール素子の取扱
Motor PCB Ass'y 内にあるホール素子もP.U.サポート Ass'y と同様，静電気破壊等に充分注意して取り扱ってください.

本機を調整（特に，P.U.サポートAss'y 交換時）する際は，ローディング・メカ部を取り外すと容易に行うことができます.
3 項“外装部品の外し方”を参照して各部を取り外し，同様にローディング・メカ部も取り外します.

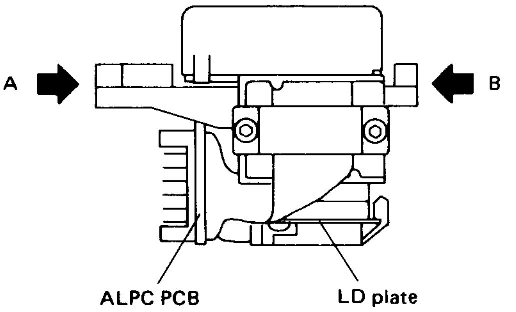

A
B
ALPC PCB
LD plate

Fig. 4-1

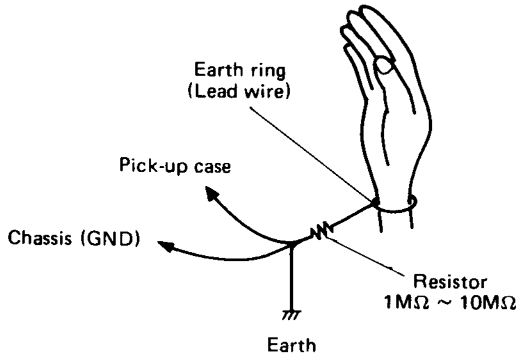

Earth ring
(Lead wire)
Pick-up case
Chassis (GND)
Resistor
1MΩ ~ 10MΩ
Earth

Fig. 4-2

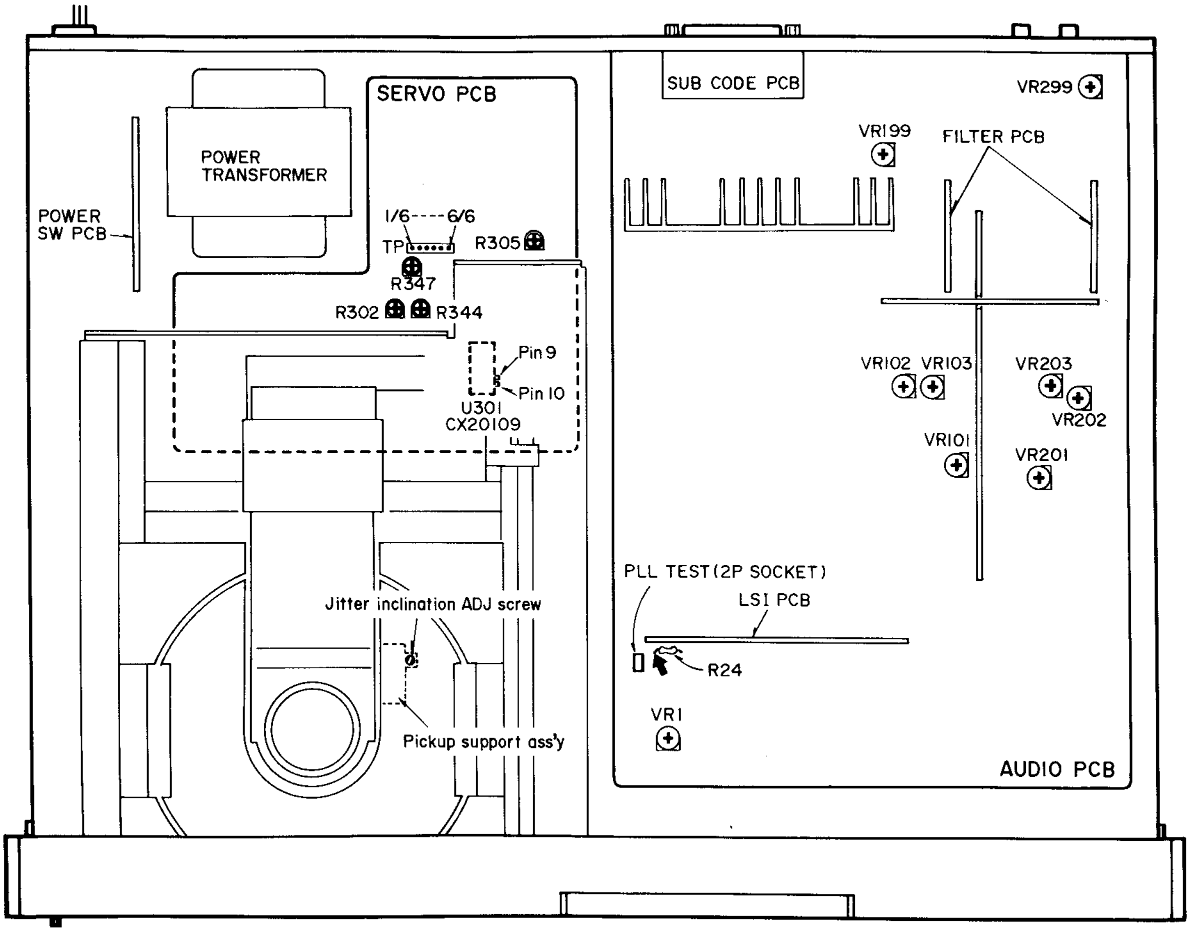

SERVO PCB
POWER
TRANSFORMER
POWER
SW PCB
1/6----6/6
TP
R305
R347
R302
R344
Pin 9
Pin 10
U301
CX20109
Jitter inclination ADJ screw
Pickup support ass'y
SUB CODE PCB
VR299
VR199
FILTER PCB
VR102
VR103
VR203
VR202
VR101
VR201
PLL TEST (2P SOCKET)
LSI PCB
R24
VR1
AUDIO PCB

Fig. 4-3 Adjustment locations

4-1 Adjusting the servo mechanism

- Use disc YEDS-7

4-1-1 Check the thread and operation of the pickup actuator

- Before loading the disc, set the pickup support assembly at the outer circumference.
- Switch on.
  Check that the pickup support assembly moves to the inner circumference and the pickup actuator moves up and down three times.

4-1-2 Same track detection (Referece)

In the 3-beam pickup configuration, beams strike the pit rows as shown in Fig. 4-4. Therefore, when 3 beams strike a single (the same) track, the same information is obtained as the main signal and sub signals which are delayed a fixed time (t);
this time lag (t) is obtained as follows:
When the linear velocity is 1.2-1.4 msec and the beam interval is 22 μm.

In fact, the parts are perfectly adjusted at the factory, so, it hardly ever happen that the 3 beams are not on the same track. Thus, whether the 3 beams are on the same track or not can be judged (detected) from the above.

4-1 サーボ調整

* ＴＰ及び調整箇所はSERVO PCB です.
* 使用ディスク YEDS-7

4-1-1　スレッド及びP.U.アクチェーター動作チェック
- ディスクは装着しない.
- P.U.サポートAss'y 最外周へセット

電源 ON 時P.U.サポートAss'y は最内周へ移動後, P.U.アクチェーターが 3回上下動すること.

4-1-2　同一トラック確認 [参考資料]

3 ビーム方式のP.U.では, Fig.4-4 のようにビームがピット列上に並んでいる. 従って, 同一トラック上に 3つのビームが並んだ場合, 同じ信号がメイン信号とサブ信号から一定時間(t) の遅れをもって得られる. その時間(t) は17 μ sec.

一方, 3 つのビームが同一トラック上にない場合はＥビームとメイン・ビーム信号との相関関係が無いので Fig.4-5-2 のようにＥビーム信号とメインビーム信号の同期がとれない. したがってFig.4-5-1 のようにＥビーム信号とメインビーム信号の同期がとれれば 3つのビームが同一トラック上にあると判断できる.

* オシロスコープのトリガー・レベルの調整に十分注意して行なってください.

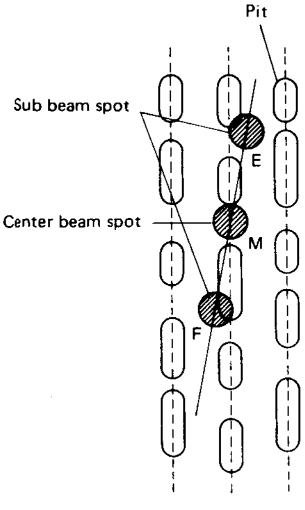


Fig. 4-4

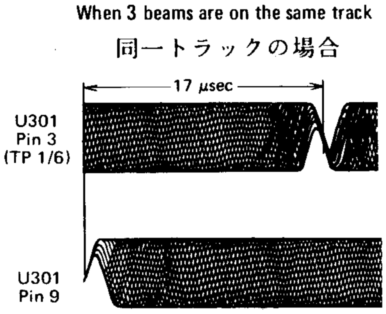


Fig. 4-5-1

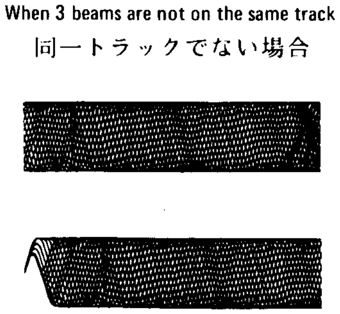


Fig. 4-5-2

Upper: Main beam signal
Lower: Ebeam signal (Trigger)
上：メインビーム信号
下：Ｅビーム信号(トリガー)

・Load the disc and switch the player on.

4-1-3 Adjusting the diffraction grating (when the pick-up is replaced)

1) Tools, etc. to be prepared

- Dual-tace oscilloscope (with x-y Lissajous mode)
- Alligator clip
- Jig driver (Part NO.5736024200)
- Compact disc which is easily traceable.

2) Preparations

a. Remove the screws on the front of the tray and pull it out toward you.
b. Remove the mechanism ass'y and solder the lead wires to pin 9 and pin 10 of U301 (24-pin).
c. Free the mechanism ass'y from the chassis taking care not to short-circuit it.
d. Re-install the tray.
e. Connect the CH-1 oscilloscope probe to TP-1/6(HF). At this time, the screw hole in the mechanism ass'y should be grounded.
f. Connect the CH-2 oscilloscope probe to pin 9 (E). Ground in the same way as CH-1 above.
g. Set the ranges of the oscilloscope as follows:
CH-1: 500 mV/div. (AC)
CH-2: 50mV/div: (AC)
5 μs/div.
h. Set the trigger mode to CH-2.

3) Adjustment

a. Load a disc.
b. Insert the screwdriver into the adjusting hole in the bottom of the unit. (See Fig. 4-7) To do this, the screwdriver cannot be inserted unless the pickup is at the inside of the disc.(At this time, insert the screwdriver while moving the pickup toward inside by hand, swinging it to the left and right.)
c. Press the PLAY button. When the unit enters the play mode, the waveform is Fig.4-5-1 or Fig.4-5-2 will appear.

・以下，ディスクを装着，PLAY 状態.

4-1-3 回折格子調節（ピックアップ交換時）

1) 用意するもの

- 2 現象オシロスコープ (X-Y リサージュ付)
- ワニロクリップ
- 治具ドライバー (Part NO.5736024200)
- なるべくかかり易いディスク

2) 準備

a. トレイのネジを外し，トレイを手前に引き抜く.
b. メカ Assy を外し，U301 (24pin) Pin9 と Pin10 にリード線を半田付する.
c. メカ Assy をショートさせないように本体より浮かす.
d. トレイを取り付ける.
e. オシロスコープのプローブ CH-1 を TP-1/6 (HF)に接続する．この時アースはメカ Assy のネジ穴へアースすること.
f. オシロスコープのプローブ CH-2 を Pin9 (E) に接続する，アースは CH-1 と同様.
g. オシロスコープのレンジを次のようにセットする.
CH-1感度 : 500mV/Div, AC
CH-2感度 : 50mV/Div, AC
時間軸 : 5 μSec/Div
h. トリガー・モードを CH-2 にセットする.

3) 調整

a. ディスクをセットする.
b. 治具をADJ 穴 (図 4-7参照) へ差し込む，この時 PU が内周へ来ていないと入らない (その時はスライダーを手で内周へ送り少し左右にゆすりながら入れると入る).
c. PLAYの釦を押し PLAY 状態になると Fig.4-5-1又は，Fig.4-5-2 の波形が表われる.
d. この時 TP-1/6 (HF)の波形が少ないとディスクが STOP することがあるので右又は，左へ回して同一トラックでTP-1/6 (HF) の波形が700mV p-p 位になるところで止める，又同一トラックをみつける.
ただし 同一トラックをみつけるまではディスクがすぐ STOP するので PLAY 釦を押しながらみつけ出す.

d. At this time, if the waveform at TP-1/6 is too small, the disc might stop in the middle of adjustment. So, turn the adjusting screw clockwise or counterclockwise so that the three laser beams are on the same track and the waveform at TP-1/6 (HF) becomes approx. 700mVp-p; stop adjustment at this point. Since the disc might stop before the correct point is found, search for the point while pressing the PLAY button.

e. After the point where the three beams are on the same track has been found roughly, connect the CH-1 probe to pin 10 (F) of U301. Then, set the oscilloscope range to 50 mV/div.

f. Set the oscilloscope to the X-Y mode and display the Lissajous figure.

g. When TP-4/6 is grounded, the waveform as in Fig. 4-6 will appear. If the Lissajous figure does not show the 180° pattern, turn the adjusting screw slowly to obtain the 180° pattern. At this time, turning in either direction may give the correct figure, however, turn the adjusting screw in the direction for the closer correct point and note the direction in which it was turned.

h. Connect the oscilloscope probe to TP-1/6(HF) again and remove TP-4/6 from GND, then check whether the three beams are on the same track. If not, return to step e.

i. If the HF waveform is too small or the disc is not rotating correctly even when the Lissajous figure shows the 180 ° pattern, turn the adjusting screw in the reverse direction so that the 180° pattern appears. (If the adjusting screw is turned clockwise to obtain the 180° pattern is step g, turn it counterclockwise this time.)

4) Remarks

a. In the diffraction grating adjustment, once the laser beams are not on the same track, the correct point where the three beams are on the same track cannot be found easily.
To avoid this, turn the adjusting screw slowly and crarefully. At this time it is better to stop with the HF waveform at the peak point.

e. ある程度同一トラックを見つけだせたならば，プローブCH-1を U301 Pin10 (F) へ接続する．又，500mV/div を50mV/div. にする．

f. オシロスコープをX-Y にしリサージュ波形を描かせる．

g. TP-4/6をGND に落すと Fig4-6 の様な波形があらわれる．もしリサージュが 180° になっていない時は，ゆっくり治具を回し 180° にする．この時右に回しても左に回しても 180° になるが，一番近い 180° を選ぶ．この時治具を回した方向を覚えておく．

h. もう一度オシロスコープのプローブをTP-1/6 (HF) に接続し TP-4/6 をGND から外し同一かどうかチェックするもし同一トラックでなければ，ステップ e に戻る．

i. もし 180° にしても HF の波形が少ないか，又はディスクが正常に作動しない時は先程回した逆の 180° を選ぶ．(右に回して 180° で駄目ならば 左回しの 180° にする)

4) 備考

a. グレーティングの調整は，一度同一トラックを外すとなかなか同一トラックを見つけ出すのに『コツ』がいるので治具の扱いはゆっくり回すこと．この時 (HF) はピークで止めておくのが良い．

b. サービス用の PU は，ある程度同一トラックに調整されているので一番近い 180° を選ぶ．

c. サーボ調整，特にオフセット関係の初期のセットによりフォーカス・サーチ及びロックスライダーの移動をなるべくさせない様にしてからグレーティング調整に入ると良い．

d. ディスクが回転しない時は，治具を適度に回しながらPLAY釦を押し続ける．

【注意】

調整作業にあたっては，治具ドライバーを回した方向を誤ることのないよう留意して下さい．

b. In servicing, after the pickup has been roughly adjusted so that the laser beams are on the same track, find the closest point where a 180 ° pattern can be obtained.

c. Before starting the diffraction grating adjustment, it is recommended to initially perform servo adjustment, especially the offset-related adjustments, so that the focus search and the lock slider operate as little as possible.

d. If the disc does not rotate, hold the PLAY button pressed while turning the adjusting screw.

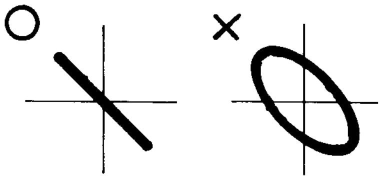


Fig. 4-6

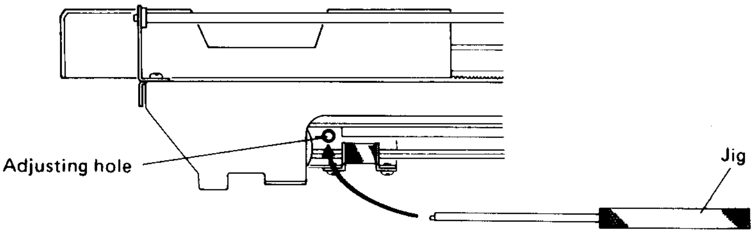


Fig. 4-7

4-1-4 Tracking balance adjustment

Ground TP-4/6 and adjust R302 so that the tracking error at TP-5/6 swings around 0 V.

4-1-4　トラッキング・バランス

TP-4/6をGND におとし, TP-5/6のトラッキング・エラーが 0V を中心に振れるよう R302 で調整.

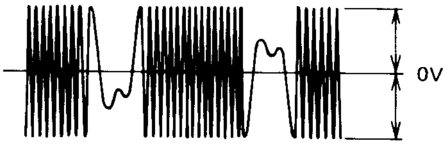


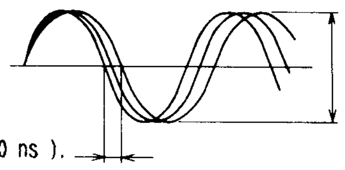
Fig. 4-8

4-1-5 Jitter adjustment

Adjust R344 so that the waveform at TP-1/6 is maximum. Adjust the jitter inclination ADJ screw on the pickup support assembly so that the amount of jitter is minimum or the waveform on the oscilloscope looks focused.

4-1-5　ジッター調整

TP-1/6の波形が最大になるよう R344 で調整.
ジッター量が最小になるようP.U.サポートAss'y 部のジッター傾角Adj 用ビスで調整. (ジッターが最小ということは, オシロスコープで観測している波形のフォーカスがあったように見える.)



Adjust R344 so that the wave form at TP-1/6 is between 0.7Vp-p and 1Vp-p.
最大になるよう調整する
(目安値 0.7Vp-p ～ 1Vp-p)

Adjust the jitter inclination ACJ screw so that the jitter is minimum (below 30 ns).
最小 (30nsec 以下) になるよう調整

Fig. 4-9

4-1-6 Reajusting the diffraction grating

Readjust the diffraction grating as described in 4-1-3.

- There should be no difference in the levels of the TEs when the pickup is in the inner and outer positions.

4-1-7 Checking tracking waveform

After adjusting the diffraction grating, check that the tracking error swings around 0 V. (Refer to 4-1-4)

4-1-8 Focus gain adjustment

Apply a 1kHz/4Vp-p TP-3/6 from an external OSC via a 100 kohm resistor and adjsut R347 so that phase at TP-2/6 is 90° with respect to that of the external OSC.

4-1-9 Tracking gain adjustment

Apply a 1.5kHz/4Vp-p to TP-4/6 from an external OSC via 100 kohm resistor and adjust R305 so that phase at TP-5/6 is 90° with respect to that of the external OSC.

4-1-6 回折格子再調整

再度 4-1-3 項の調整を行うこと.

* 最内周と最外周とでT.E レベルに差がないこと.

4-1-7 トラッキング・バランス・チェック

前項の状態で, トラッキング・エラーが 0 Vを中心に振れているかチェック. (4-1-4項参照)

4-1-8 フォーカス・ゲイン調整

外部 OSC より 100K Ω の抵抗を介して 1kHz/4Vp-p の信号をTP-3/6に入力, TP-2/6と外部 OSC との位相が90° になるよう R347 で調整.

4-1-9 トラッキング・ゲイン調整

外部OSC より 100k Ω の抵抗を介して 1.5kHz/4Vp-p の信号をTP-4/6に入力, TP-5/6と外部 OSC との位相が90° になるよう R305 で調整.

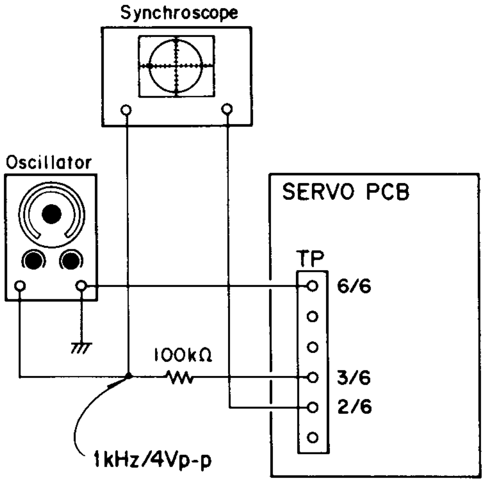


Fig. 4-10

4-2 Adjusting the Mechanism

4-2-1 Adjust the height of the turntable
Adjust the height of the turntable so it is 14.8 mm above the surface of the mechanism chassis.

4-2 機構部調整

4-2-1 ターンテーブル高さ調整
メカ・シャーシ面より14.8mmの位置に調整する.

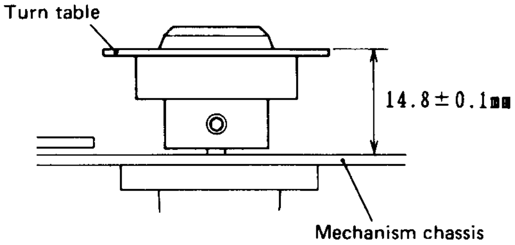


Fig. 4-11

4-2-2 Holder assembly
With a disc losded, adjust the ADJ screw so that the gap betwwen the clamper and clamparm is between 1 and 1.5 mm.

4-2-2 ホルダー Ass'y
Discセット時クランパーとクランプ・アームとの隙間が 1mm ~1.5mm になるよう調整ビスで調整する.

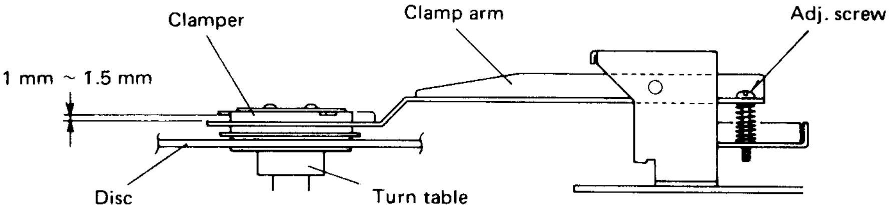


Fig. 4-12

4-3 Electrical Characteristics

- Disc to be used: YEDS-7

4-3-1 Adjusting the PLL frequency
Remove the 2-pin PLL TEST socket from the audio PC board. Connect a frequency counter to the left side of R24 on the audio PC board and adjust VR1 so that the PLL frequency is 8.643 ± 0.01MHz. For this, use a x1 sync probe with the frequency counter. After adjustment, replace the shorting pin in the 2-pin socket.

- If a frequency counter is not available, turn VR1 to check the range in which sound is muted, then set VR1 to the center of this range.

4-3 電気調整

* 使用ディスク YEDS-7

4-3-1 PLL 周波数調整
Audio PCB 内PLL TEST 2P ソケットをはずし, R24 の左側に周波数カウンタを接続する. このときの周波数が 8.643 ± 0.01 MHz になるよう VR1 で調整.
周波数カウンタのプローブは, シンクロ用プローブ×1 使用.
調整後, 2Pショートピン挿入.

* 周波数カウンタがない場合は, VR1 を回して音のとぎれとその位置を確認し, VR1 を真中にセットする.

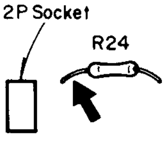


Fig. 4-13

4-3-2 Checking the output voltage (Track "1" search)

- Output level of 1kHz:
  6.3 dBV (2.1V) ± 0.5 V for both FIX and VARI.
- Channel level difference
  1 dB or less for both FIX and VARI.

4-3-3 Checking distortion (Track "1" search)

The distortion in the above condition should be 0.007% or less with 400 Hz to 30 kHz fillters.

4-3-4 Checking the headphone output level (Track "1" search)

The headphone output level in the above condition should be 1.2 ± 0.2V with a 33 ohm load connected and the output VR set to max. When the output is 1 V, the waveform should not be clipped.

4-3-5 Checking the frequency characteristic (Tracks "2" – "13" search)

The playback frequency characteristic between 20 Hz and 20 kHz should be ± 0.5 dB or less with respect to the 1 kHz output level.

20 Hz to 20 kHz ±.05 dB (REF: 1kHz =0 dB)

- With the filter off.

4-3-6 S/N adjustment (Track "23" search)

First adjust coarse ADJ VR103 (203) so that the S/N is minimum.

Next adjust fine ADJ VR1102 (202) and VR101 (201) alternately so that the S/N ratio is minimun (97 to 98 dB).

(Use Shibasoku S/N meter 725 or equivalent.)

The S/N ratio should be 94 dB or more with DIN IN.

4-3-7 Checking channel separation (Tracks "29"- "36" search)

Leakage from L channel to R channel and vice versa should be 90 dB or better.

- REF.Tr "1": 0 dB

Set the output VR to max.

4-3-2 出力電圧チエック (トラック“ 1”サーチ)

- 1kHZの出力レベル
  FIX / VARI共　6.3dBV(2.1V) ± 0.5V
- Chレベル差
  FIX / VARI共　1dB 以内

4-3-3 歪率チェック (トラック“ 1”サーチ)

上記状態のときの歪率は，400 Hz ～ 30 kHz フィルターIN時に 0.007% 以下のこと．

4-3-4 ヘッドホン出力レベル・チェック (トラック“ 1”サーチ)

上記状態時の PHONES 出力は，33 Ω 負荷，OUTPUT VR MAX 時 1.2V ± 0.2V のこと．

但し，1V 出力時では波形クリップしていないこと．

4-3-5 周波数特性チェック (トラック“ 2～13”サーチ)

20 Hz ～ 20 kHz を再生した時，1 kHz 出力レベルに対し ± 0.5dB以内のこと．

20Hz～20kHz ± 0.5dB (REF;1kHz =0dB)

* フィルター　off

4-3-6 S/N 調整 (トラック“23”サーチ)

はじめに粗調VR…VR103 (203) でS/N 最小に調整．

次にFINE VR …VR102 (202) とVR101 (201) を交互に調整し，S/N が最小(97 ～98dB) になるようにする．

(シバソク 725又は同等品使用)

DIN AUDIO IN時　S/N 94dB 以上

4-3-7 チャンネル・セパレーション・チェック (トラック“29～36”サーチ)

Lch (Rch) からRch (Lch) へのもれが 90dB 以下のこと．

* トラック“ 1”の出力レベルを 0dBとする．

OUTPUT VR は MAXとする．

4-3-8 Emphasis effect (Track "39" - "41" search)

When searching 39 tracks, the emphasis effect should drop by 0.39 ± 0.2 dB with respect to the 1 kHz reference level (Tr "1": 0dB) in playback. Similarly, in searching 40 and 41 tracks, the emphasis effect should drop by 4.5 ± 0.2dB and 9 ± 0.3 to ± 0.4dB respectively.

4-3-9 Audio-Amp. Offset

1. Connect DC voltage meter to audio output.
2. Next adjust VR199 (L) / VR299 (R) so that DC voltage is minimum.

4-3-8　エンファシス効果　(トラック “39～41” サーチ)

トラック “39” サーチ

1kHz再生時，1kHz基準レベル(Tr “ 1” ; 0dB)に対し0.37dB ± 0.2dB落ちのこと．同様に 40,41の各トラックを再生し，前者は 4.5dB± 0.2dB，後者は9dB ± 0.3～ 0.4dB落ちにそれぞれなること．

4-3-9　オーディオ・アンプのオフセット
（トラック “23” サーチ）

1. オーディオ出力端子に DC ボルト・メータを接続する．
2. DC電圧が最小になるように VR199 (L)，VR299 (R) を調整する．

PARTS LIST SECTION

CAUTION

⚠ Parts marked with this sign are safety critical components. They must always be replaced with identical components—refer to the appropriate parts list and ensure exact replacement.

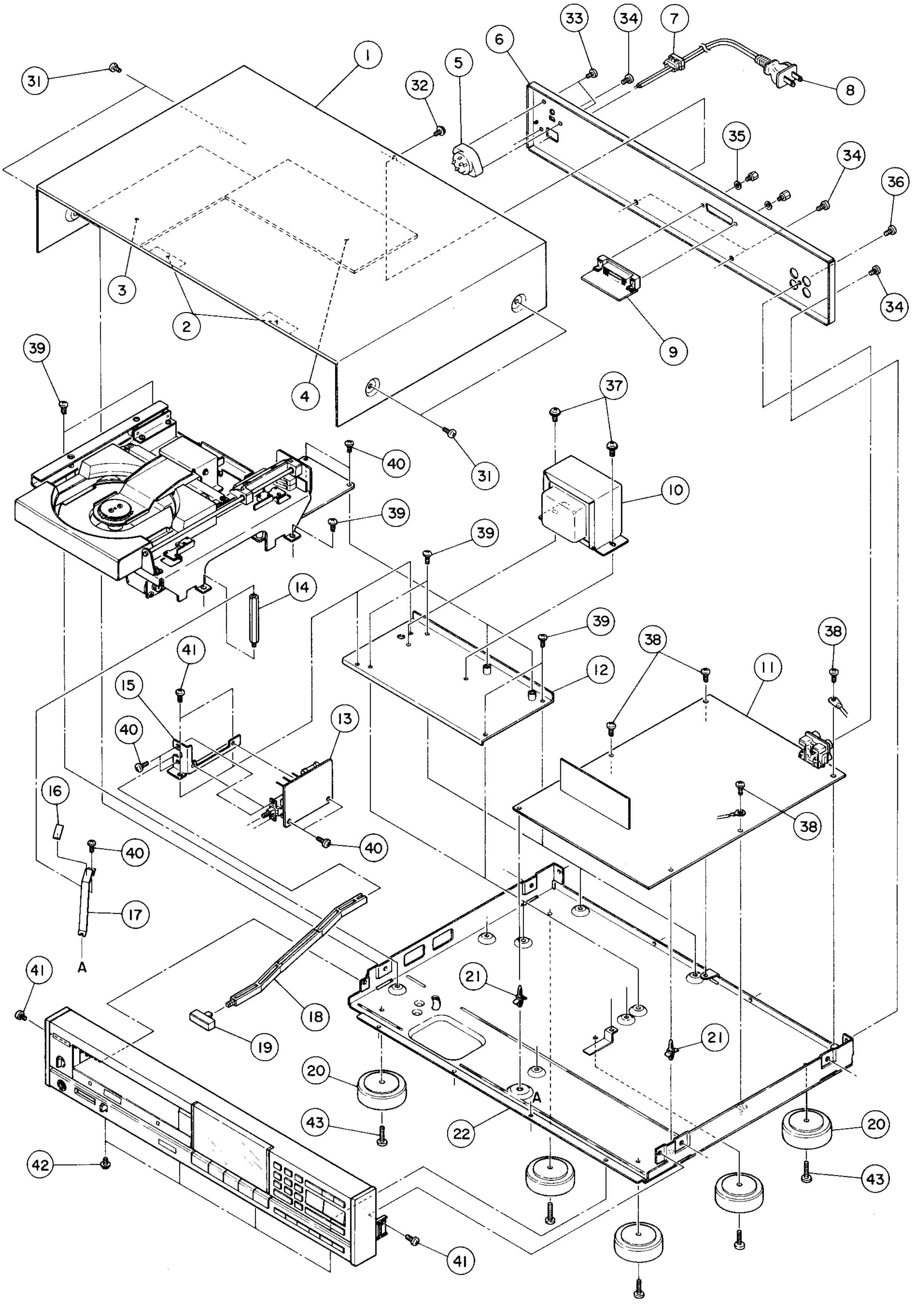
注　意

⚠印は安全重要部品です。交換する時は必ずティアック指定の部品を使用してください。

5 EXPLODED VIEWS AND PARTS LIST

分解図とパーツ・リスト

EXPLODED VIEW-1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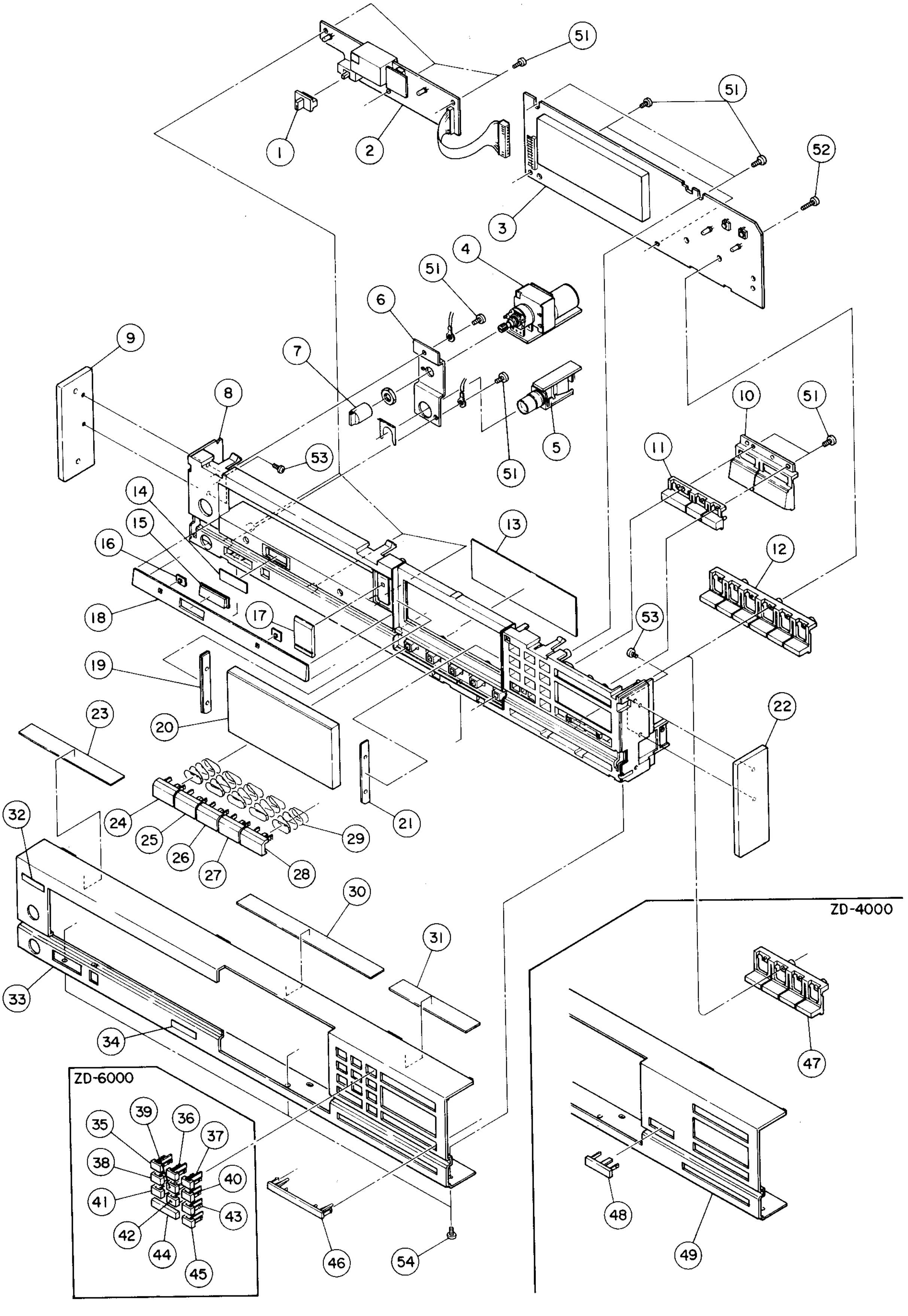
REF.NO.	PARTS NO.	DESCRIPTION	REMARKS
1- 1	*5800786801	BONNET	
1- 2	*5800810700	SPACE, BONNET	
1- 3	*5800810600	CUSHION, BONNET	
1- 4	*5800893200	SHEET, DIAPHRAGIN PROOF	
1- 5	⚠ 5302101700	SW.,VOLTAGE SELECT FS907G [GE]	
1- 6	*5800893000	PANEL, REAR (C) [J]	
	*5800893100	PANEL, REAR (D) [US,C,GE,E,UK,A]	
1- 7	⚠*5317003500	BUSHING SR-7K-2 [J]	
	⚠*5317003400	BUSHING 2271 [US,C,GE,E,UK,A]	
1- 8	⚠*5350012300	CORD,AC [J]	
	⚠*5350010700	CORD,AC [US,C,GE]	
	⚠*5350008200	CORD,AC [E]	
	⚠*5350008300	CORD,AC [UK]	
	⚠*5128047000	CORD,AC [A]	
1- 9	*5200214100	SUB CODE PCB ASSY	Ref. Pages 24 & 29
1-10	⚠ 5320037900	TRANSFORMER [J]	
	⚠ 5320038500	TRANSFORMER [GE]	
	⚠ 5320038600	TRANSFORMER [US,C]	
	⚠ 5320038701	TRANSFORMER [E,UK,A]	
1-11	*5200213801	AUDIO PCB ASSY [ZD-6000] [J,GE]	Ref. Pages 25 & 29
	*5200213811	AUDIO PCB ASSY [ZD-6000] [US,C]	Ref. Pages 25 & 29
	*5200213861	AUDIO PCB ASSY [ZD-6000] [E,UK,A]	Ref. Pages 25 & 29
	*5200213821	AUDIO PCB ASSY [ZD-4000] [J,GE]	Ref. Pages 25 & 29
	*5200213831	AUDIO PCB ASSY [ZD-4000] [US,C]	Ref. Pages 25 & 29
	*5200213871	AUDIO PCB ASSY [ZD-4000] [E,UK,A]	Ref. Pages 25 & 29
1-12	*5800787701	TRANSFORMER BRACKET ASSY	
1-13	*5200189230	POWER SW PCB ASSY [J,US,C,GE]	Ref. Pages 28 & 31
	*5200189240	POWER SW PCB ASSY [E,UK,A]	Ref. Pages 28 & 31
1-14	*5800816800	SHAFT, HOLD	
1-15	*5800787801	SW. BRACKET	
1-16	*5800817000	CUSHION, HOLD	
1-17	*5800816901	BRACKET, HOLD	
1-18	*5800786700	ROD	
1-19	5800897800	BUTTON,POWER C	
1-20	*5800898300	FOOT ASSY	
1-21	*5787000300	PCB SUPPORT, LOCKING	
1-22	*5800892800	CHASSIS, MAIN	
1-31	*5800899400	SCREW, BONNET	
1-32	*5783613008	SCREW, C TITE M3X8	
1-33	*5783673006	SCREW, PAN P TITE M3X6 [GE]	
1-34	*5783523005	SCREW, PAN S TITE M3X5	
1-35	*5785223000	WASHER, FIVER 3X6X0.5T BK	
1-36	*5783673006	SCREW, PAN P TITE M3X6	
1-37	*5780144008	SCREW, PAN SEMS B M4X8	
1-38	*5783033006	SCREW, BIND S TITE	
1-39	*5783003005	SCREW, PAN STITE M3X5	
1-40	*5780003006	SCREW,BIND M3X6	
1-41	*5783003006	SCREW, PAN S TITE M3X6	
1-42	*5783583006	SCREW, WASHERED S M3X6	
1-43	*5783004018	SCREW, PAN S TITE M4X18	

[US]:U.S.A. [E]:EUROPE [UK]:U.K. [C]:CANADA
[A]:AUSTRALIA [GE]:GENERAL EXPORT [J]: JAPAN

Parts marked with *require longer delivery time.

EXPLODED VIEW-2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ZD-6000
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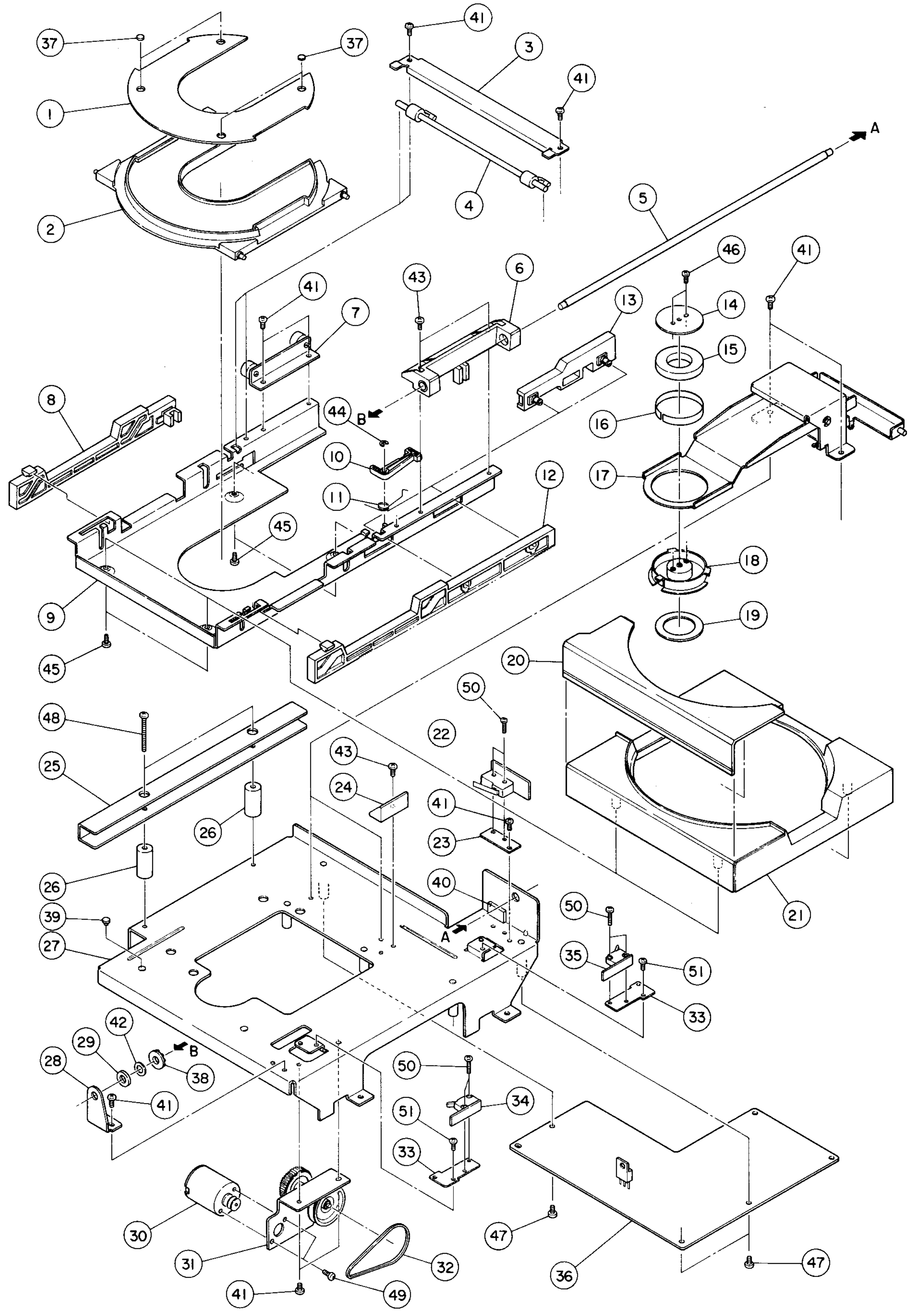
REF.NO.	PARTS NO.	DESCRIPTION	REMARKS
2- 1	5800792200	KNOB, SLIDE	
2- 2	*5292205300	MODULE, RECEIVING	
2- 3	*5200189820	DISPLAY PCB ASSY [ZD-6000]	Ref. Pages 27 & 31
	*5200189830	DISPLAY PCB ASSY [ZD-4000]	Ref. Pages 27 & 31
2- 4	*5200188820	VOLUME PCB ASSY [ZD-6000]	Ref. Pages 24 & 29
	*5200188830	VOLUME PCB ASSY [ZD-4000]	Ref. Pages 24 & 29
2- 5	*5200188710	HEADPHONE AMP PCB ASSY	Ref. Pages 24 & 29
2- 6	*5800792001	SUPPORT VOLUME	
2- 7	5800897700	KNOB,VR. C	
2- 8	*5800892900	PANEL, SUB	
2- 9	*5800892300	PANEL, SIDE(L)	
2-10	5800898000	BUTTON, PUSH I	
2-11	5800897900	BUTTON, PUSH H	
2-12	5800797101	BUTTON, PUSH (A1)	
2-13	*5800799300	FILTER	
2-14	*5800792300	FILTER, SENSOR	
2-15	*5800891900	WINDOW, SENSOR	
2-16	*5800892000	WINDOW, LED	
2-17	5800891601	BUTTON, PUSH	
2-18	*5800891500	PANEL, WINDOW	
2-19	*5800800100	ESCUTCHEON, WINDOW(L)	
2-20	*5800898200	WINDOW	
2-21	*5800800000	ESCUTCHEON, WINDOW(R)	
2-22	*5800892200	PANEL, SIDE(R)	
2-23	*5800814100	TAPE, MASKING(B)	
2-24	5800904700	BUTTON, PUSH (K) REP	
2-25	5800904800	BUTTON, PUSH (K) ALL	
2-26	5800904900	BUTTON, PUSH (K) AB	
2-27	5800905100	BUTTON, PUSH (K) AUT	
2-28	5800905000	BUTTON, PUSH (K) TIM	
2-29	*5800892700	SPG., BUTTON	
2-30	*5800814000	TAPE, MASKING(A)	
2-31	*5800814200	TAPE, MASKING(C)	
2-32	*5720175500	EMBLEM, TEAC	
2-33	*5800891300	PANEL, FRONT(B) [ZD-6000]	
2-34	*5720175600	EMBLEM, ZDIGITAL	
2-35	5800797501	BUTTON, PUSH (D)1 [ZD-6000]	
2-36	5800797601	BUTTON, PUSH (D)2 [ZD-6000]	
2-37	5800797701	BUTTON, PUSH (D)3 [ZD-6000]	
2-38	5800797801	BUTTON, PUSH (D)4 [ZD-6000]	
2-39	5800797901	BUTTON, PUSH (D)5 [ZD-6000]	
2-40	5800798001	BUTTON, PUSH (D)6 [ZD-6000]	
2-41	5800798101	BUTTON, PUSH (D)7 [ZD-6000]	
2-42	5800798201	BUTTON, PUSH (D)8 [ZD-6000]	
2-43	5800798301	BUTTON, PUSH (D)9 [ZD-6000]	
2-44	5800798401	BUTTON, PUSH(E)+10[ZD-6000]	
2-45	5800797401	BUTTON, PUSH(D)0 [ZD-6000]	
2-46	5800898100	BUTTON, SEESAW B	
2-47	5800801501	BUTTON, PUSH A2 [ZD-4000]	
2-48	5800798501	BUTTON, PUSH (E)[ZD-4000]	
2-49	*5800891400	PANEL,FRONT(C)[ZD-4000]	
2-51	*5783603008	SCREW, BIND P TITE	
2-52	*5783603015	SCREW, BIND P TITE M3X15	
2-53	*5780002006	SCREW, BIND M2X6	
2-54	*5780323006	SCREW, M3X6	

Parts marked with *require longer delivery time.

EXPLODED VIEW-3


37
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A
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B
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A
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33
42
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B
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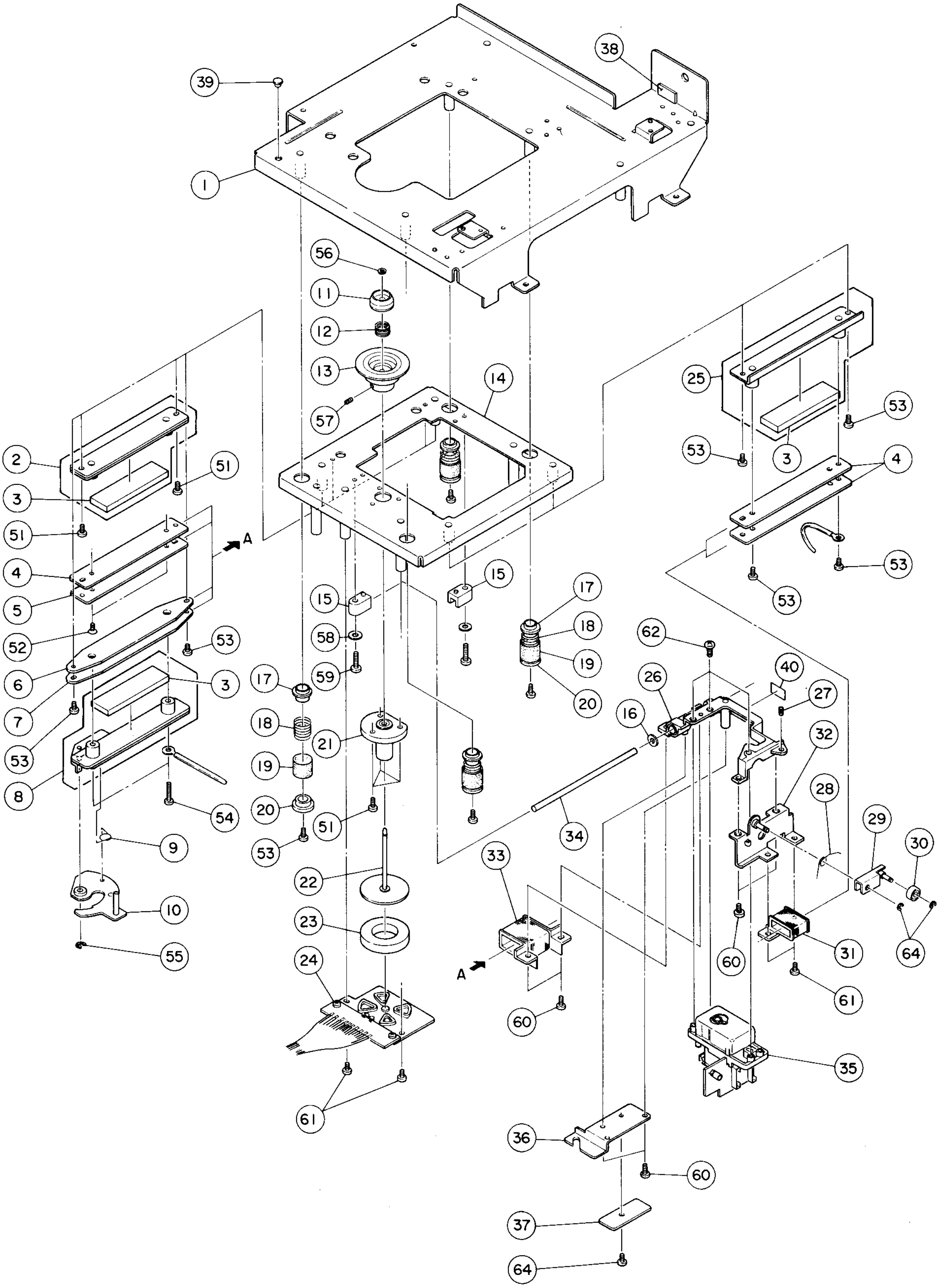
21

REF.NO.	PARTS NO.	DESCRIPTION	REMARKS
3- 1	*5800791100	SHEET, RUBBER	
3- 2	*5800787200	TRAY	
3- 3	*5800791401	ARM, HINGE	
3- 4	*5800791200	CRANK BAR ASSY	
3- 5	*5800788900	RAIL	
3- 6	*5800786900	SLIDER ASSY	
3- 7	5800791601	ROLLER ASSY	
3- 8	*5800787100	GUIDE, L	
3- 9	*5800899200	TRAY BASE(B) ASSY	
3-10	*5800791000	HOOK	
3-11	*5800790900	SPRING, HOOK	
3-12	*5800787000	RACK	
3-13	*5800790800	GUIDE, R	
3-14	*5800790401	PLATE	
3-15	5730011900	MAGNET	
3-16	*5800804800	RING, SHIELD	
3-17	*5800789501	CLAMP ARM ASSY	
3-18	5800787300	HOLDER	
3-19	*5800790500	PAD, DISC	
3-20	*5800891700	PANEL, TRAY(B)	
3-21	*5800786502	CASE	
3-22	*5200189510	SW PCB ASSY(C)	Ref. Pages 24 & 29
3-23	*5800790601	HOLDER, SWITCH	
3-24	*5800789200	BASE, CLAMP	
3-25	*5800789300	GUIDE, RAIL	
3-26	*5800789401	HOLDER, GUIDE RAIL	
3-27	*5800788001	SUB CHASSIS ASSY	
3-28	*5800789101	HOLDER(A), RAIL	
3-29	*5800789000	TUBE, RUBBER	
3-30	5370006400	MOTOR, DC	
3-31	5800788101	GEAR ASSY	
3-32	5800788801	BELT, TRAY	
3-33	*5800892600	HOLDER, SWITCH(C)	
3-34	*5200189310	SW PCB ASSY(A)	Ref. Pages 24 & 29
3-35	*5200189410	SW PCB ASSY(B)	Ref. Pages 24 & 29
3-36	*5200189110	SERVO PCB ASSY	Ref. Pages 27 & 31
3-37	*5800806000	CUSHION	
3-38	*5800892500	CUSHION	
3-39	*5800810800	SLIDER	
3-40	*5800814900	PAD, TRAY	
3-41	*5730017600	SCREW, BR TITE M3X6	
3-42	*5785305200	POLYSLIDER	
3-43	*5730017700	SCREW, BR TITE M3X8	
3-44	*5786002000	E RING, E-2	
3-45	*5783543008	SCREW, P TITE BIND M3X8	
3-46	*5783542005	SCREW, P TITE M2X5	
3-47	*5780003006	SCREW, BIND M3X6	
3-48	*5783003025	SCREW, S TITE M3X25	
3-49	*5780002003	SCREW, BIND M2X3	
3-50	*5780002008	SCREW, BIND M2X8	
3-51	*5780002004	SCREW, BIND M2X4	

Parts marked with *require longer delivery time.

EXPLODED VIEW-4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64
A

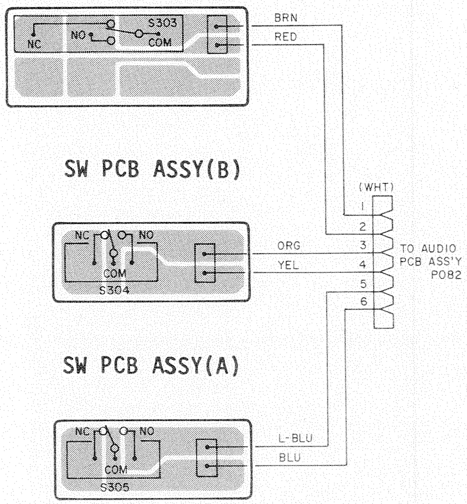
REF.NO.	PARTS NO.	DESCREPTION	REMARKS
4- 1	*5800788001	SUB CHASSIS ASSY	
4- 2	*5800793101	YOKE ASSY(D1)	
4- 3	5730012000	MAGNET, LM	
4- 4	*5800793200	YOKE, D-1	
4- 5	*5800793400	YOKE, D-2	
4- 6	*5800794000	YOKE, D-5	
4- 7	*5800793900	YOKE, D-3	
4- 8	*5800801601	YOKE(D4) ASSY	
4- 9	*5800799800	SPRING, B	
4-10	*5800795701	LOCK ARM ASSY	
4-11	5800796701	CENTER CAP	
4-12	*5800799600	SPRING, PRES.C	
4-13	5800796600	TURN TABLE	
4-14	*5800898400	MECHANISM CHASSIS ASSY	
4-15	*5800795600	HOLDER(B), RAIL	
4-16	*5800938900	WASHER, RUBBER	
4-17	*5800796900	HOLDER, SPRING A	
4-18	*5800799500	SPRING, PRES.B	
4-19	*5800796800	BUSH, RUBBER	
4-20	*5800797000	HOLDER, SPRING B	
4-21	5800793000	HOUSING ASSY,MOTOR	
4-22	5800796200	SPINDLE ASSY	
4-23	5730011900	MAGNET	
4-24	*5800800501	COIL SUPPORT ASSY	
	(*5200190000	MOTOR PCB ASSY)	
4-25	*5800793502	YOKE ASSY(S)	
4-26	*5800898600	PU SUPPORT ASSY (B)	
4-27	*5800795000	SCREW, ADJUSTMENT	
4-28	*5800799700	SPRING, C	
4-29	*5800794701	ARM ASY, ROLLER SUB	
4-30	5730012300	BEARING, BALL	
4-31	5800801401	COIL, S	
4-32	*5800898900	COIL HOLDER ASSY	
4-33	5800801300	COIL, D	
4-34	*1676657705	SHAFT, GUIDE	
4-35	5347003400	PICK UP ASSY, MLP-3	
4-36	*5800899500	PLATE(B), LOCK	
4-37	*5200189610	LINK PCB ASSY	
4-38	*5800814900	PAD, TRAY	
4-39	*5800810800	SLIDER	
4-40	*5800938500	CUSHION, RUBBER	
4-51	*5730017600	SCREW, S TITE, M3X6	
4-52	*5780203006	SCREW, FLAT M3X6	
4-53	*5780103006	SCREW, PAN M3X6	
4-54	*5780103014	SCREW, PAN M3X14	
4-55	*5786003000	E RING, E-3	
4-56	*5785342200	POLYSLIDER 2.6X5X0.25T	
4-57	*5782013004	SCREW, HEX M3X4	
4-58	*5785023200	WASHER, FLAT 3X10X0.5T	
4-59	*5780103010	SCREW, PAN M3X10	
4-60	*5780003005	SCREW, BIND M3X5	
4-61	*5780103004	SCREW, PAN M3X4	
4-62	*5780002605	SCREW, BIND M2.6X5	
4-63	*5780003004	SCREW, BIND M3X4	
4-64	*5786002000	E RING, E-2	

Parts marked with * require longer delivery time.

6 PC BOARDS AND PARTS LIST

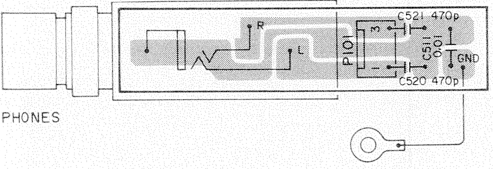
基板図とパーツ・リスト

SW PCB ASSY(C)

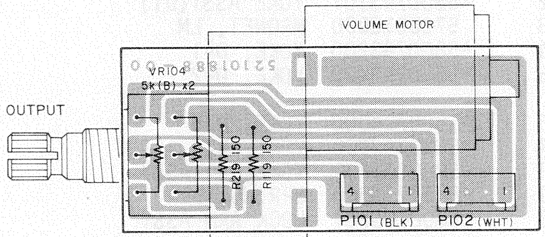

SW PCB ASSY(B)

SW PCB ASSY(A)
NC
NO
S303
COM
BRN
RED
(WHT)
1
2
3
4
5
6
TO AUDIO PCB ASS'Y P082
NC
NO
COM
S304
ORG
YEL
NC
NO
COM
S305
L-BLU
BLU

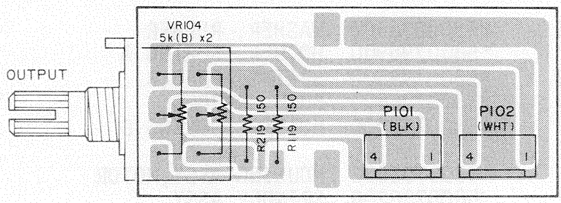
HEADPHONE AMP PCB ASSY


R
L
P101
C521 470p
C511 .001
GND
C520 470p
PHONES

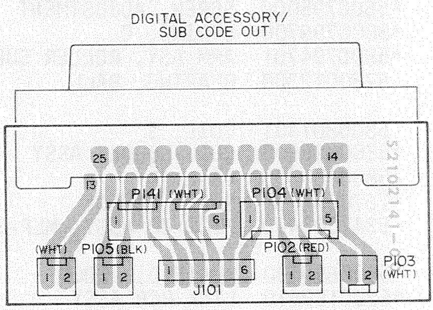
VOLUME PCB ASSY [ZD-6000]


VOLUME MOTOR
VR104
5k(B) x2
OUTPUT
R219 150
R119 150
4
1
P101 (BLK)
P102 (WHT)

VOLUME PCB ASSY [ZD-4000]


VR104
5k(B) x2
OUTPUT
R219 150
R119 150
P101 (BLK)
P102 (WHT)
4
1

SUB CODE PCB ASSY


DIGITAL ACCESSORY/
SUB CODE OUT
25
14
13
1
P141 (WHT)
P104 (WHT)
(WHT)
P105 (BLK)
P102 (RED)
P103 (WHT)
J101
1
2
6
5

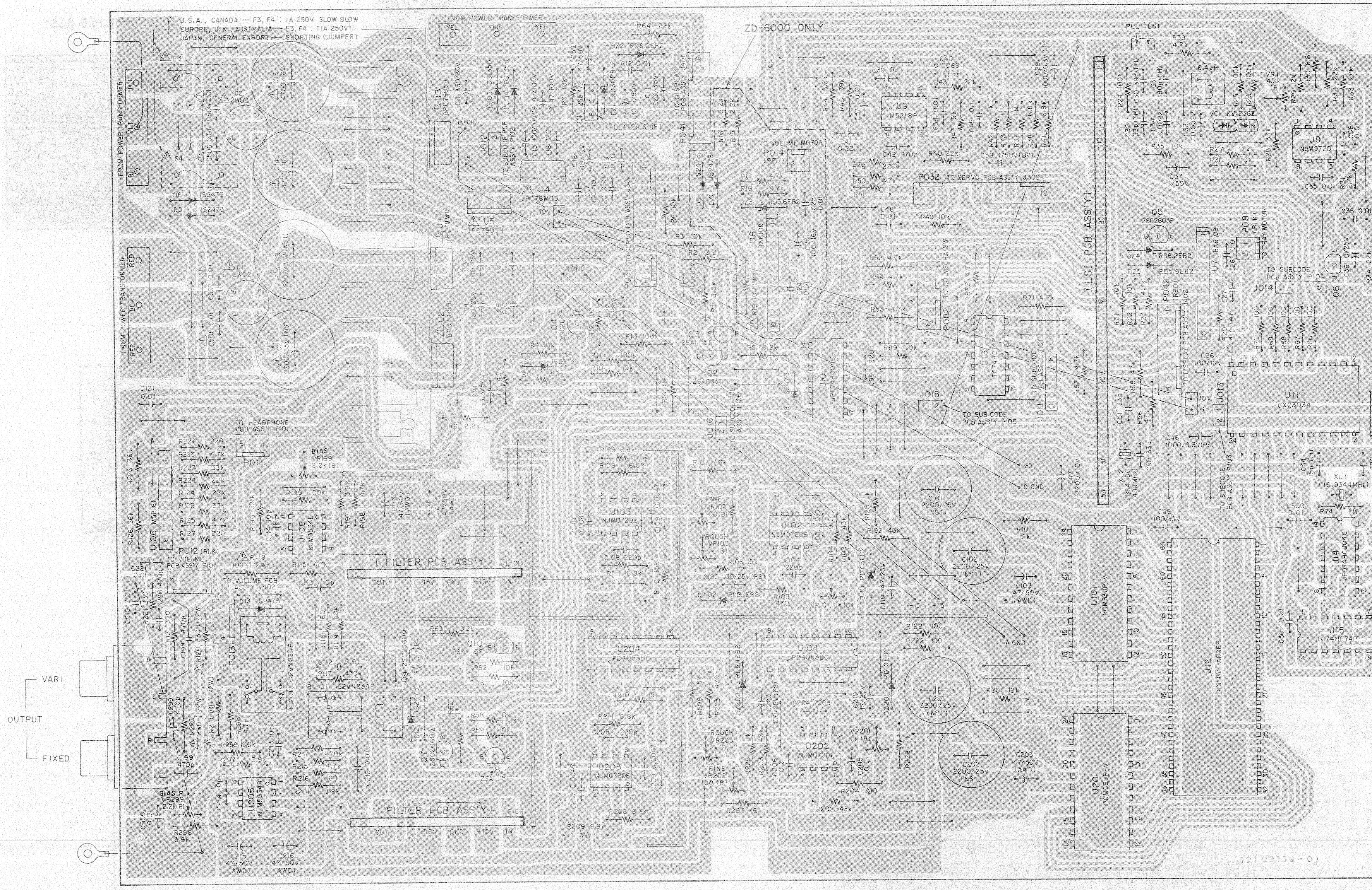
NOTES

1. PC boards are shown viewed from foil side.
2. Resistor values are in ohms (k=kilo-ohms M=megohms).
3. All capacitor values are in microfarads (p=picofarads).
4. Parts marked with ⚠ this sign are safety critical components. They must always be replaced with identical components. Refer to the appropriate parts list to ensure exact replacement.

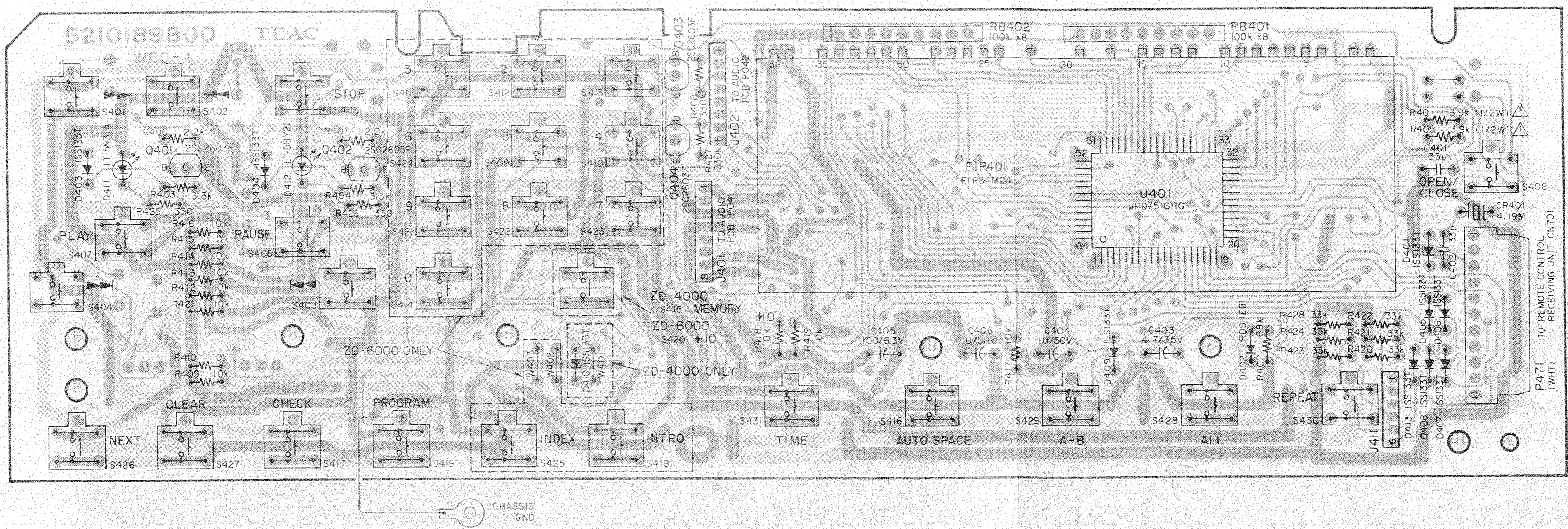
注

1. 基板図はパターン面が示されています.
2. 抵抗の単位はΩ(k=kΩ, M=MΩ)です.
3. コンデンサの単位はμF(p=pF)です.
4. ⚠マークのある部品は安全重要部品です. 交換するときは必ずティアック指定の部品を使用してください.

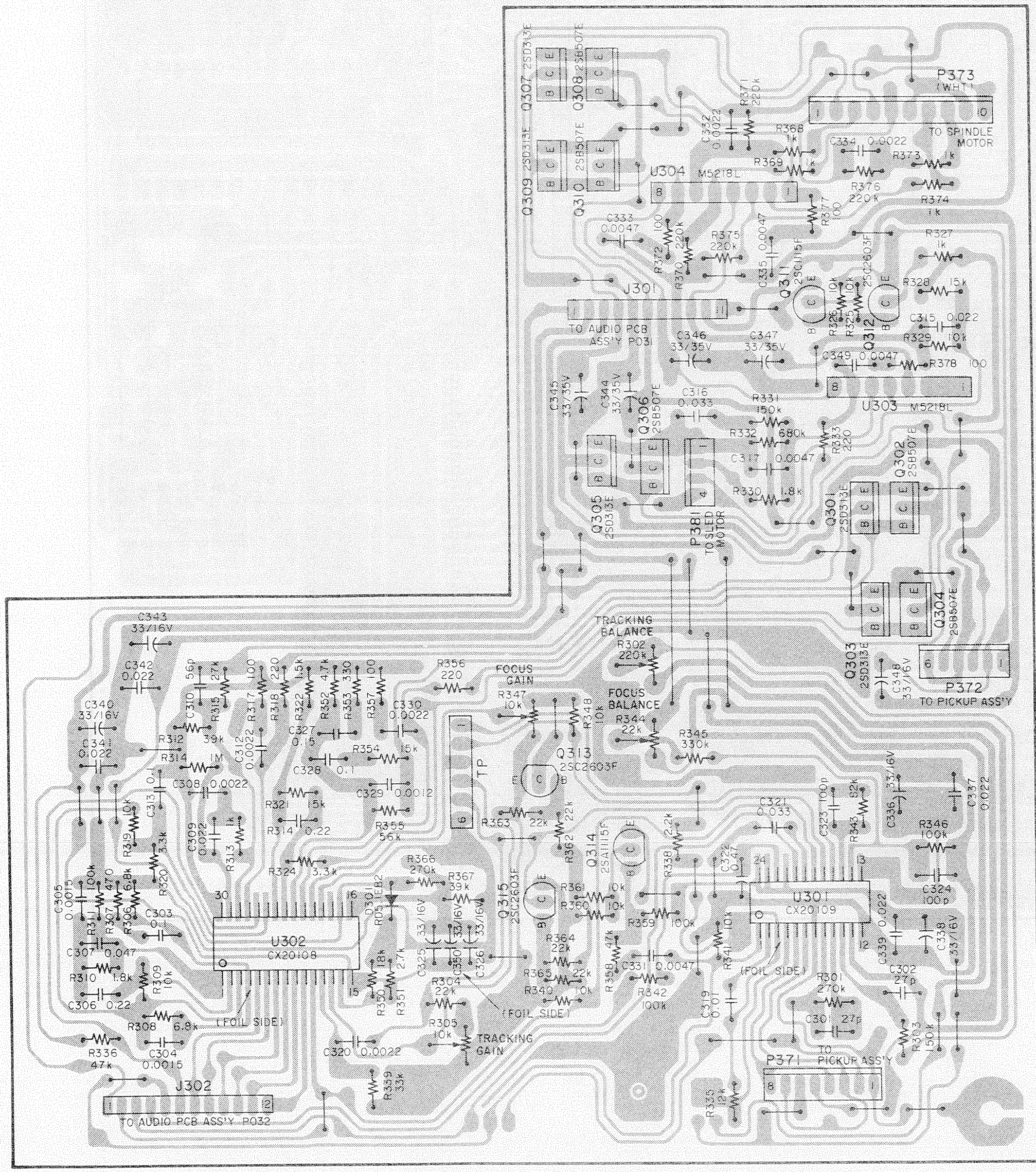
AUDIO PCB ASSY


U.S.A., CANADA — F3, F4 : 1A 250V SLOW BLOW
EUROPE, U.K., AUSTRALIA — F3, F4 : T1A 250V
JAPAN, GENERAL EXPORT — SHORTING (JUMPER)
FROM POWER TRANSFORMER
FROM POWER TRANSFORMER
FROM POWER TRANSFORMER
ZD-6000 ONLY
PLL TEST
(LSI PCB ASS'Y)
TO HEADPHONE PCB ASS'Y P101
TO VOLUME PCB ASS'Y P101
TO VOLUME PCB ASS'Y P102
TO VOLUME MOTOR
TO SERVO PCB ASS'Y J302
TO TRAY MOTOR
TO SUBCODE PCB ASS'Y P104
TO SUB CODE PCB ASS'Y P105
TO SUBCODE PCB ASS'Y P103
TO DISPLAY PCB ASS'Y J402
(FILTER PCB ASS'Y)
(FILTER PCB ASS'Y)
U101 PCM53JP-V
U201 PCM53JP-V
U12 DIGITAL ADDER
U11 CX23034
U204 μPD4053BC
U104 μPD4053BC
U103 NJM072DE
U102 NJM072DE
U203 NJM072DE
U202 NJM072DE
U105 NJM5534D
U205 NJM5534D
U106 M5216L
U9 M5218P
U8 NJM072D
U14 μPD74HCU04C
U15 TC74HC74P
XL1 (16.9344MHz)
VARI
OUTPUT
FIXED
521O2138-01

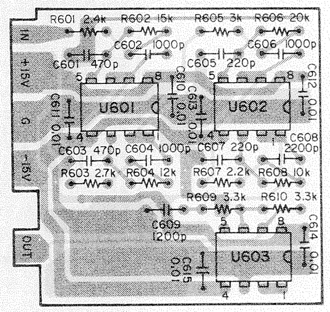
DISPLAY PCB ASSY


5210189800
TEAC
WEC-4
STOP
PLAY
PAUSE
NEXT
CLEAR
CHECK
PROGRAM
INDEX
INTRO
TIME
AUTO SPACE
A-B
ALL
REPEAT
OPEN/CLOSE
MEMORY
+10
ZD-4000
ZD-6000
ZD-6000 ONLY
ZD-4000 ONLY
FIP401
FIP84M24
U401
μPD7516HG
RB402 100k x8
RB401 100k x8
Q401
Q402
Q403
Q404
J401
J411
P471 (WHT)
TO REMOTE CONTROL RECEIVING UNIT CN701
TO AUDIO PCB P042
CHASSIS GND

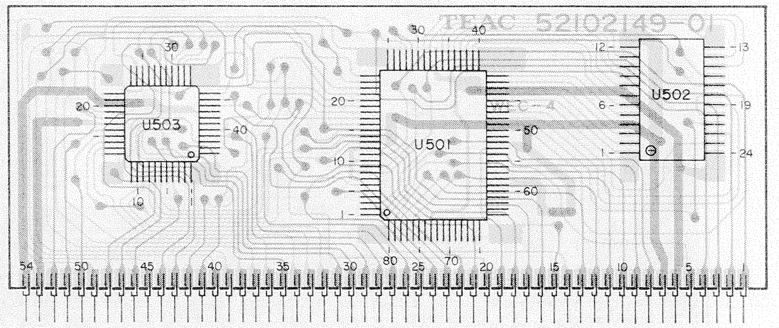
SERVO PCB ASSY


P373 (WHT)
TO SPINDLE MOTOR
U304 M5218L
U303 M5218L
J301
TO AUDIO PCB ASS'Y P031
P381 TO SLED MOTOR
TRACKING BALANCE
FOCUS GAIN
FOCUS BALANCE
TRACKING GAIN
P372 TO PICKUP ASS'Y
Q313 2SC2603F
Q314 2SA1115F
Q315 2SC2603F
U302 CX20108
U301 CX20109
(FOIL SIDE)
P371 PICKUP ASS'Y
J302
TO AUDIO PCB ASS'Y P032
TP

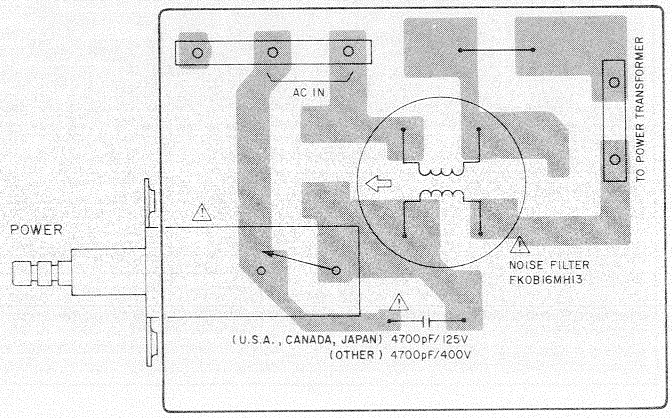
FILTER PCB ASSY


IN
+15V
G
-15V
OUT
U601
U602
U603

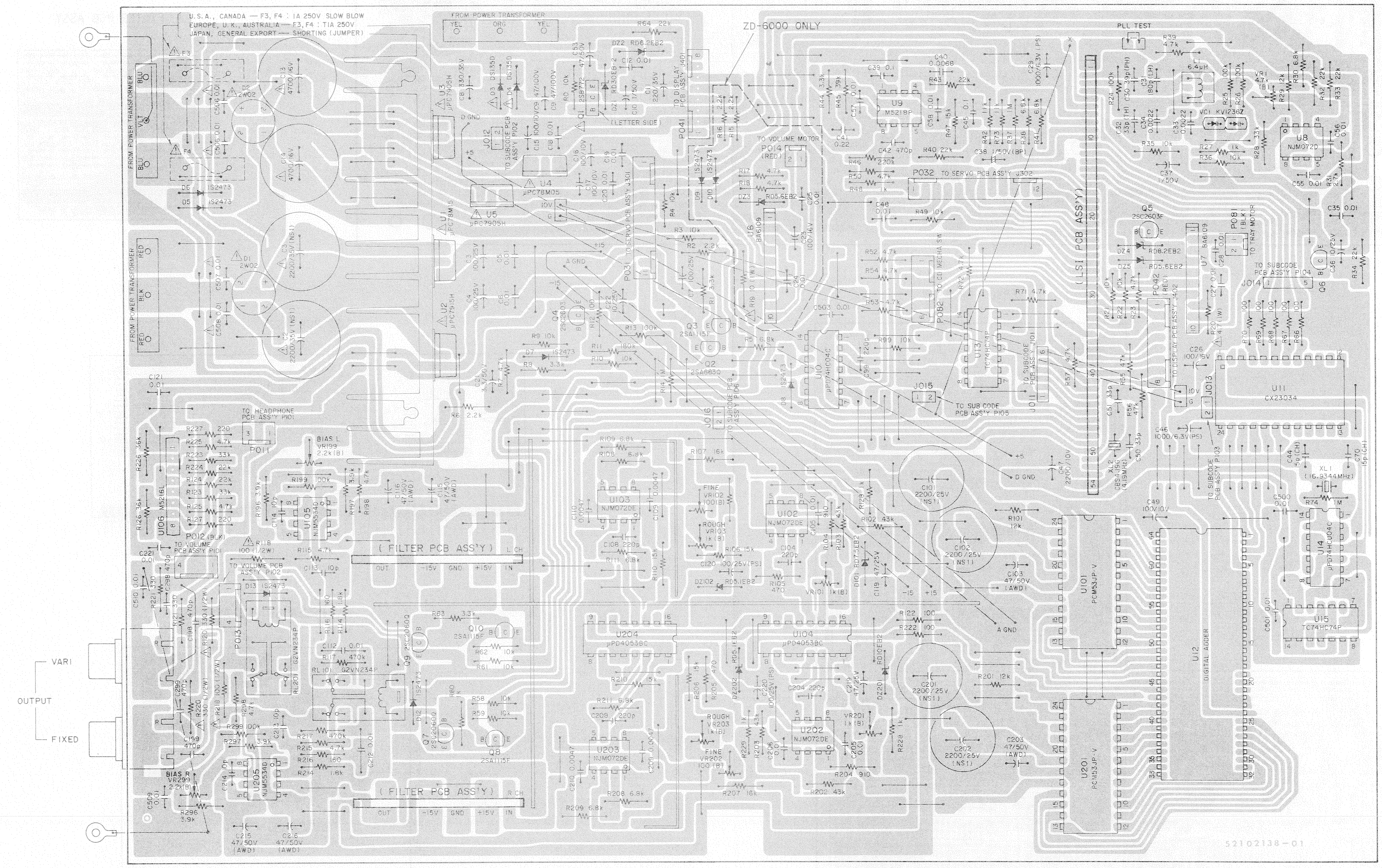
LSI PCB ASSY


TEAC 52102149-01
U503
U501
U502

POWER SW PCB ASSY


AC IN
POWER
TO POWER TRANSFORMER
NOISE FILTER FK0816MH13
(U.S.A., CANADA, JAPAN) 4700pF/125V
(OTHER) 4700pF/400V

AUDIO PCB ASSY

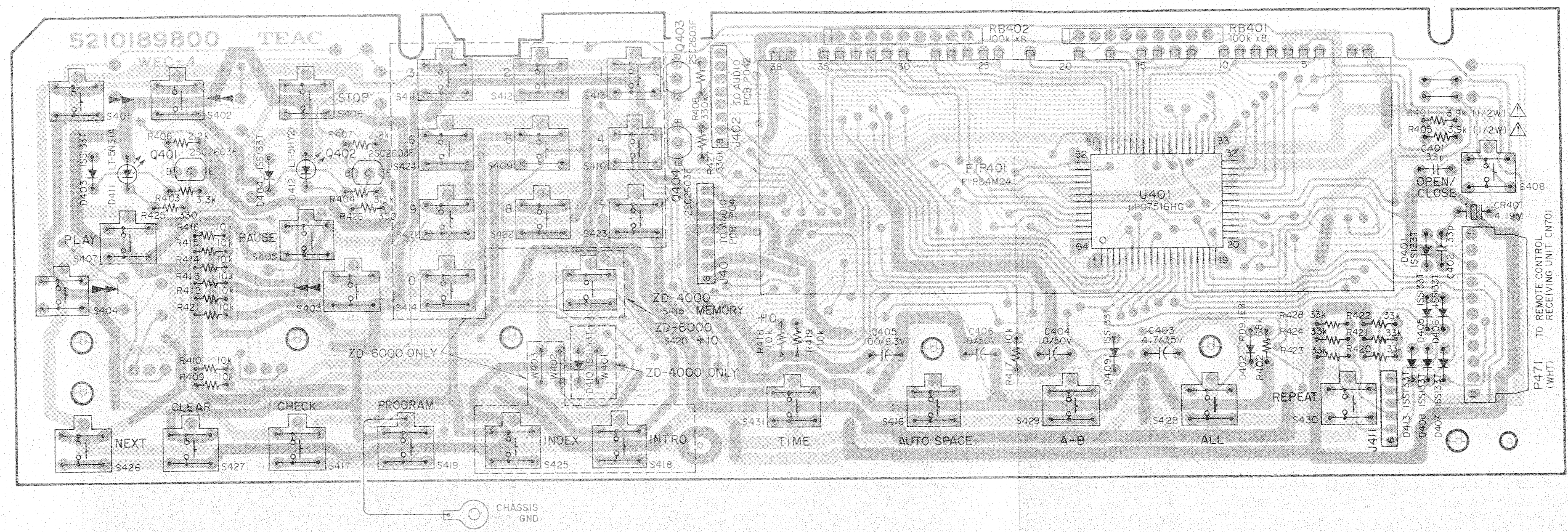

U.S.A., CANADA — F3, F4 : 1A 250V SLOW BLOW
EUROPE, U.K., AUSTRALIA — F3, F4 : T1A 250V
JAPAN, GENERAL EXPORT — SHORTING (JUMPER)
FROM POWER TRANSFORMER
YEL
ORG
YEL
ZD-6000 ONLY
PLL TEST
FROM POWER TRANSFORMER
BLU
BLK
RED
F3
F4
D1 2W02
D2 2W02
U1 μPC78M15
U2 μPC7915H
U3 μPC7905H
U4 μPC78M05
U5 μPC7905H
(LETTER SIDE)
TO DISPLAY PCB ASS'Y
TO SUBCODE PCB ASS'Y
TO VOLUME MOTOR
TO SERVO PCB ASS'Y
TO TRAY MOTOR
TO SUB CODE PCB ASS'Y P105
TO HEADPHONE PCB ASS'Y P101
TO VOLUME PCB ASS'Y P101
TO VOLUME PCB ASS'Y P102
(LSI PCB ASS'Y)
(FILTER PCB ASS'Y) L CH
(FILTER PCB ASS'Y) R CH
OUT
-15V
GND
+15V
IN
A GND
D GND
U6 BA6109
U7 BA6109
U8 NJM072D
U9 M5218P
U10 μPD74HC04C
U11 CX23034
U12 DIGITAL ADDER
U13 TC74HC74P
U14 μPD74HC04C
U15 TC74HC74P
U101 PCM53JP-V
U201 PCM53JP-V
U102 NJM072DE
U103 NJM072DE
U104 μPD4053BC
U105 NJM5534D
U106 M5216L
U202 NJM072DE
U203 NJM072DE
U204 μPD4053BC
U205 NJM5534D
XL1 (16.9344MHz)
VC1 KV1230Z
BIAS L VR199 2.2k(B)
BIAS R VR299 2.2k(B)
FINE VR102 100(B)
ROUGH VR103 1k(B)
FINE VR202 100(B)
ROUGH VR203 1k(B)
RL101 G2VN234P
RL201 G2VN234P
C101 2200/25V (NS1)
C102 2200/25V (NS1)
C201 2200/25V (NS1)
C202 2200/25V (NS1)
52102138-01

VARI

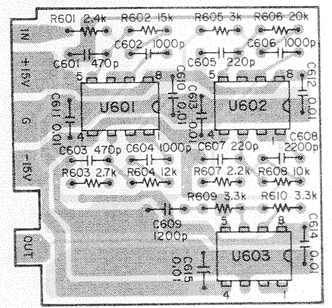
OUTPUT

FIXED

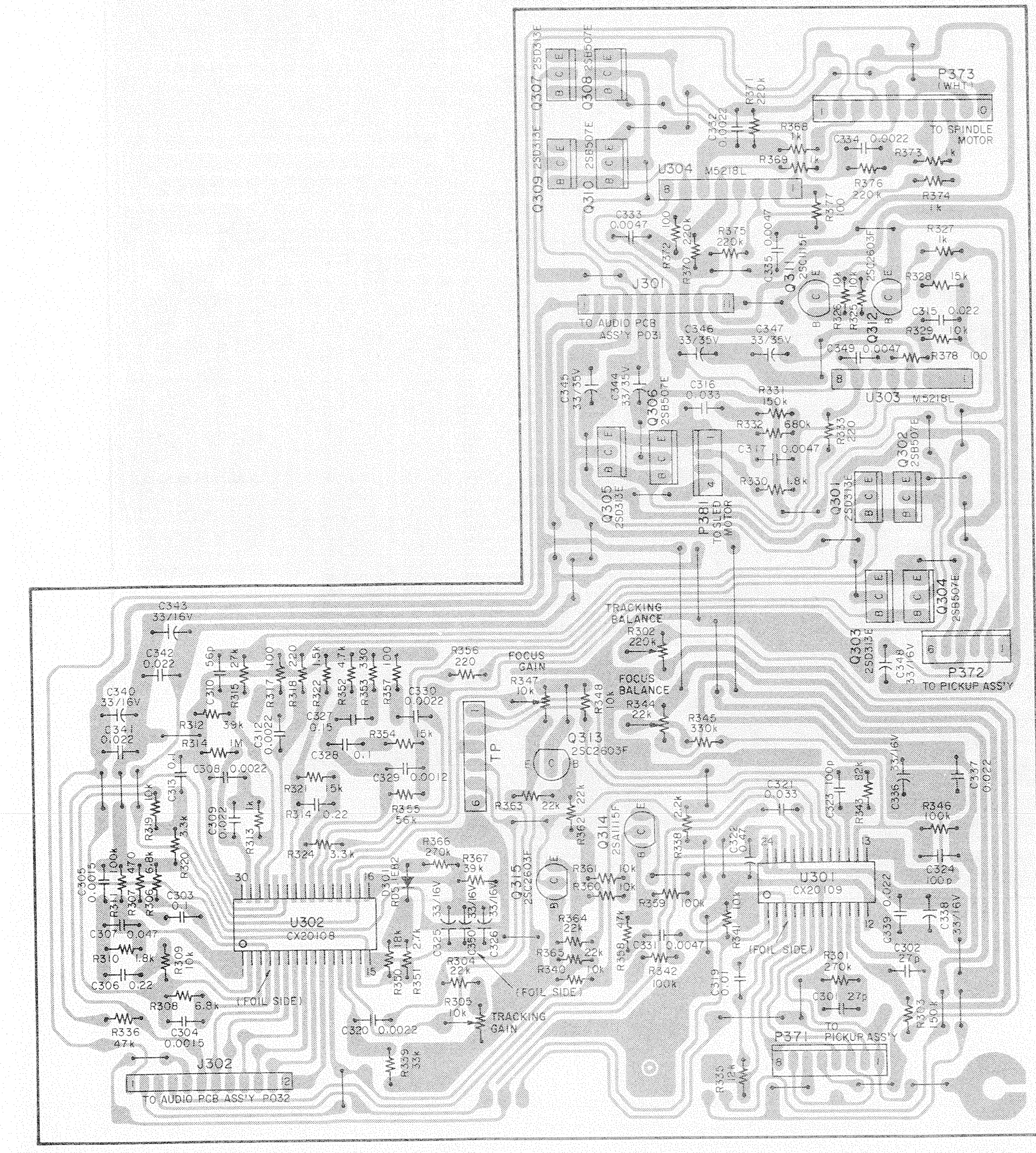
DISPLAY PCB ASSY


5210189800
TEAC
STOP
PLAY
PAUSE
NEXT
CLEAR
CHECK
PROGRAM
INDEX
INTRO
TIME
AUTO SPACE
A-B
ALL
REPEAT
OPEN/
CLOSE
ZD-4000
S415 MEMORY
ZD-6000
S420 +10
ZD-6000 ONLY
ZD-4000 ONLY
FIP401
FIP8M24
U401
μPD7516HG
RB402
100k x8
RB401
100k x8
J402 TO AUDIO PCB P042
J401 TO AUDIO PCB P041
TO REMOTE CONTROL RECEIVING UNIT CN701
P471 (WHT)
J411
CHASSIS GND

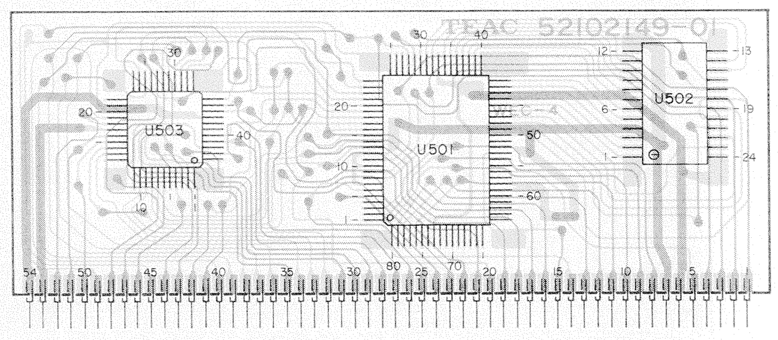
FILTER PCB ASSY


U601
U602
U603
IN
+15V
G
-15V
OUT

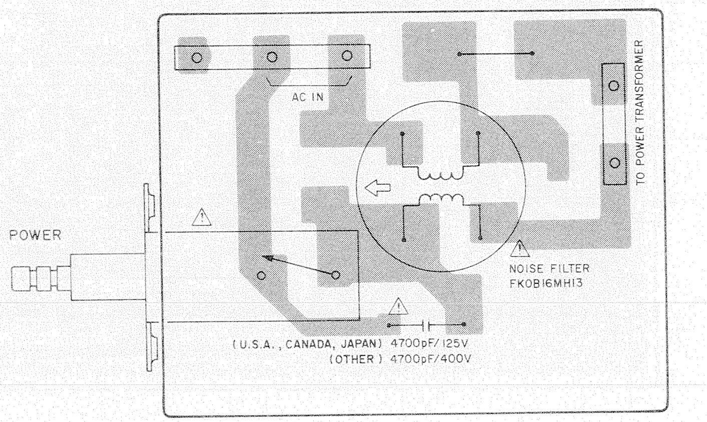
SERVO PCB ASSY


P373 (WHT)
TO SPINDLE MOTOR
U304
M5218L
J301
TO AUDIO PCB ASSY P031
U303
M5218L
P381 SLED MOTOR
TRACKING BALANCE
FOCUS GAIN
FOCUS BALANCE
P372
TO PICKUP ASS'Y
TP
U302
CX20108
U301
CX20109
(FOIL SIDE)
TRACKING GAIN
P371
TO PICKUP ASS'Y
J302
TO AUDIO PCB ASS'Y P032

LSI PCB ASSY


TEAC 52102149-01
U503
U501
U502

POWER SW PCB ASSY


AC IN
POWER
TO POWER TRANSFORMER
NOISE FILTER
FKOB16MH13
(U.S.A., CANADA, JAPAN) 4700pF/125V
(OTHER) 4700pF/400V

NOTES:

1. As regards the resistors and capacitors, refer to the circuit diagrams and the PCB ass'y drawings included in this brochure.
2. Parts marked with ⚠ this sign are safety critical components. They must always be replaced with identical components - refer to the appropriate parts list and ensure exact replacement.

SW PCB ASSY(C)

REF.NO.	PARTS NO.	DESCRIPTION
	*5200189510	SW PCB ASSY(C)
	*5210214700	SW C PCB
	5301456500	SW.,MICRO SS01-GLFD

SW PCB ASSY(B)

REF.NO.	PARTS NO.	DESCRIPTION
	*5200189410	SW PCB ASSY(B)
	*5210214600	SW B PCB
	5300912500	SW.,SLIDE 1-2 SCL101S

SW PCB ASSY(A)

REF.NO.	PARTS NO.	DESCRIPTION
	*5200189310	SW PCB ASSY(A)
	*5210214500	SW A PCB
	5300912500	SW.,SLIDE 1-2 SCL101S

HEADPHONE AMP PCB ASSY

REF.NO.	PARTS NO.	DESCRIPTION
	*5200188710	HEADPHONE AMP PCB ASSY
	*5210213900	HEADPHONE PCB
	5330013200	JACK,SINGLE PHONE
P101	5336126300	PLUG, CON. 8263-0312 WHT

VOLUME PCB ASSY

REF.NO.	PARTS NO.	DESCRIPTION
	*5200188820	VOLUME PCB ASSY[ZD-6000]
	*5200188830	VOLUME PCB ASSY[ZD-4000]
	*5210214000	VOLUME PCB
P101	5336137400	PLUG, CON. 8263-0412 BK
P102	5336126400	PLUG, CON. WHT
VR104	5283505700	VR.,5KBX2 W/MOTOR [ZD-6000]
VR104	5282412100	VR.,5KBX2 1S2UVR [ZD-4000]

SUB CODE PCB ASSY

REF.NO.	PARTS NO.	DESCRIPTION
	*5200214100	SUB CODE PCB ASSY
	*5210214100	SUB CODE PCB
	5334042000	SOCKET, CONNECTOR 25P
P102	5336135200	PLUG,CON. 8263-0212 RD
P103	5336126200	PLUG,CON. 8263-0212 WHT
P104	5336126500	PLUG,CON. WHT
P105	5336137200	PLUG,CON. 8263-0212 BK
P106	5336126200	PLUG,CON. 8263-0212 WHT
P141	5336126600	PLUG,CON. WHT

AUDIO PCB ASSY

REF.NO.	PARTS NO.	DESCRIPTION
	*5200213801	AUDIO PCB ASSY[ZD-6000] [J,GE]
	*5200213811	AUDIO PCB ASSY[ZD-6000] [US,C]
	*5200213861	AUDIO PCB ASSY[ZD-6000] [E,UK,A]
	*5200213821	AUDIO PCB ASSY[ZD-4000] [J,GE]
	*5200213831	AUDIO PCB ASSY[ZD-4000] [US,C]
	*5200213871	AUDIO PCB ASSY[ZD-4000] [E,UK,A]
	*5210213801	AUDIO PCB
	*5142087000	HOLDER,FUSE PCB [E,UK,A,US,C]
	5033291000	PLATE, INSULATOR
	5033295000	TUBE, INSULATOR
	5327007300	TERMINAL, LAPPING 3P
	5330510600	JACK, PIN 4P
	5800501502	HEAT SINK
	5780003008	SCREW,BIND M3X8
	5800761200	PLATE A, EARTH

[US]:U.S.A. [E]:EUROPE [UK]:U.K. [C]:CANADA
[A]:AUSTRALIA [GE]:GENERAL EXPORT [J]: JAPAN

Parts marked with *require longer delivery time.

AUDIO PCB ASSY

REF.NO.	PARTS NO.	DESCRIPTION
	5800761300	PLATE B, EARTH
	5800800400	PLATE, SHIELD
	5334042400	SOCKET, CONNECTOR
	5334042500	PLUG, CONNECTOR 2P
C1 C2	⚠5260407500	C.,ELEC.2200UF 35V M NS1
C13 C14	⚠5173097000	C.,ELEC.4700UF 16V (SM)
C505-508	⚠5263166723	C.,METAL 0.010UF 50V
D1 D2	⚠5228008700	SILICON STACK, 2W02
D3 -D8	⚠5224013300	DIODE, DS135 E FR
D9 D10	5224012920	DIODE, 1S2473 [ZD-6000]
D12	5224012920	DIODE, 1S2473
D13	5224012920	DIODE, 1S2473
DZ1	5224546401	DIODE, ZENER RD30EB4 FR
DZ3	5224540601	DIODE, ZENER RD5.6EB2 FR [ZD-6000]
DZ4	5224541801	DIODE, ZENER RD8.2EB2 FR
DZ5	5224540601	DIODE, ZENER RD5.6EB2 FR
DZ101	5224541501	DIODE, ZENER RD7.5EB2 FR
DZ102	5224540301	DIODE, ZENER RD5.1EB2 FR
DZ2	5224540901	DIODE, ZENER RD6.2EB2 FR
DZ201	5224542401	DIODE, ZENER RD10EB2 FR
DZ202	5224540301	DIODE, ZENER RD5.1EB2 FR
F3 F4	⚠5041140000	FUSE,1A-250V(T) [E,UK,A]
F3 F4	⚠5307037200	FUSE, T LAGE 250V [US,C]
L1	5286024900	COIL,PLL 7PHCOIL6.4UH
P011	5336126300	PLUG, CONNECTOR WHT
P012	5336137400	PLUG, CONNECTOR BLACK
P013	5336126400	PLUG, CONNECTOR WHITE
P014	5336135200	PLUG, CONNECTOR RED
P031	5336127100	PLUG, CONNECTOR WHITE
P032	5336127200	PLUG, CONNECTOR WHITE
P041	5336126800	PLUG, CONNECTOR WHITE
P042	5336135800	PLUG, CONNECTOR RED
P081	5336137200	PLUG, CONNECTOR BLACK
P082	5336126600	PLUG, CONNECTOR WHITE
Q1	⚠5230508900	TRANSISTOR, 2SB772P
Q2	5042456000	TRANSISTOR, 2SA-683
Q3 Q8	5230018920	TRANSISTOR, 2SA1115F
Q4 -Q6	5230780920	TRANSISTOR, 2SC2603F
Q7 Q9	5145082000	TRANSISTOR, 2SC-2060Q
Q10	5230018920	TRANSISTOR, 2SA1115F [ZD-4000]
R19	⚠5241215510	R.,INCOMBUSTIBLE 1W 10 [ZD-6000]
R20	⚠5241182910	R.,INCOMBUSTIBLE 4.7 1W
R118R218	⚠5240305800	R.,CARBON RMA1/2 100OHM
R120R220	⚠5240307000	R.,CARBON RMA1/2 330OHM
RL101,201	5290011800	RELAY,12V G2VN234P
U1	⚠5220412000	IC,UPC78M15H
U2	⚠5220429400	IC,UPC7915H
U3 U4	⚠5220405100	IC,UPC78M05H
U5	⚠5220429100	IC,UPC7905H
U6	5220411500	IC,BA6109 [ZD-6000]
U7	5220411500	IC,BA6109
U8	5220415000	IC,NJM072D

AUDIO PCB ASSY

REF.NO.	PARTS NO.	DESCRIPTION
U9	5220418800	IC,M5218P
U10	5220040700	IC,UPD74HC04C
U11	5220039300	IC,CX23034
U12	5220039200	IC,ADDER
U13 U15	5220040800	IC,TC74HC74P
U14	5220040900	IC,UPD74HCU04C
U101U201	5220039500	IC,PCM53JP-V
U102U103	5220416800	IC,NJM0720DE
U104U204	5220025200	IC,UPD4053BC
U105U205	5220428200	IC,NJM5534
U106	5220427900	IC,M5216L
U202U203	5220416800	IC,NJM0720DE
VC1	5228010600	VARIABLE CAP KV1236Z
VR1	5280181502	R.,TRIMMER 4.7KB H.
VR101	5280181102	R.,TRIMMER 1KB H.
VR102	5280180502	R.,TRIMMER 100 OHM/B H.
VR103	5280181102	R.,TRIMMER 1KB H.
VR201	5280181102	R.,TRIMMER 1KB H.
VR202	5280180502	R.,TRIMMER 100 OHM/B H.
VR203	5280181102	R.,TRIMMER 1KB H.
XL1	5347003500	OSC,CRYSTAL 16.9344MHZ
XL2	5292806100	FILTER,CERAMIC 4.19M
	*5200214901	LSI PCB ASSY
	*5210214901	LSI PCB
	5220039400	IC,CX23035
	5220054900	IC DIGITAL CXK5816M-15L
	5220807700	IC,UPD7508HG-558-22
	5327007900	LEAD FRAME
LP101,201	*5200220000	FILTER PCB ASSY
	*5210220000	FILTER PCB
U601-603	5220419600	IC,NJM5532D

[US]:U.S.A. [E]:EUROPE [UK]:U.K. [C]:CANADA
[A]:AUSTRALIA [GE]:GENERAL EXPORT [J]: JAPAN

Parts marked with *require longer delivery time.

DISPLAY PCB ASSY

REF.NO.	PARTS NO.	DESCRIPTION
	*5200189820	DISPLAY PCB ASSY [ZD-6000]
	*5200189830	DISPLAY PCB ASSY [ZD-4000]
	*5210189800	DISPLAY PCB
	5242117300	R.,ARRAY RML-S8J-104 [ZD-6000]
CR401	5292806100	FILTER,CERAMIC 4.19M
D401D403	5224015020	DIODE,1SS133T-77
D402	5224542001	DIODE,ZENER RD9.1EB1 FR
D404-409	5224015020	DIODE,1SS133T-77
D410	5224015020	DIODE,1SS133T-77 [ZD-4000]
D411	5225014620	LED,LT5N31A GREEN T.
D412	5225015720	LED,LT-5HY21
D413	5224015020	DIODE,1SS133T-77
FIP401	5347003600	DISPLAY,FL FIP-84M24
P471	5336129100	PLUG,CON. 8263-1111 WHT
Q401-404	5230780920	TRANSISTOR, 2SC2603F
S401-408	5302103300	SW.,TACT B3F-1122
S409-414	5302103300	SW.,TACT B3F-1122 [ZD-6000]
S415	5302103300	SW.,TACT B3F-1122 [ZD-4000]
S416-418	5302103300	SW.,TACT B3F-1122
S419-425	5302103300	SW.,TACT B3F-1122 [ZD-6000]
S426S431	5302103300	SW.,TACT B3F-1122
U401	5220809300	IC,UPD7516HG-56912

SERVO PCB ASSY

REF.NO.	PARTS NO.	DESCRIPTION
	*5200189110	SERVO PCB ASSY
	*5210214300	SERVO PCB
D301	5224573201	DIODE, ZENER RD5.1EL2 FR
Q301Q303	5145087000	TRANSISTOR 2SD-313E
Q302Q304	5145129000	TRANSISTOR 2SB-507
Q305Q307	5145087000	TRANSISTOR 2SD-313E
Q306Q308	5145129000	TRANSISTOR 2SB-507
Q309	5145087000	TRANSISTOR 2SD-313E
Q310	5145129000	TRANSISTOR 2SB-507
Q311	5230018920	TRANSISTOR 2SA1115F
Q312	5230780920	TRANSISTOR 2SC2603F
Q313	5230780920	TRANSISTOR 2SC2603F
Q314	5230018920	TRANSISTOR 2SA1115F
Q315	5230780920	TRANSISTOR 2SC2603F
R302	5280022100	VR., SEMIFIXED
R305R347	5280021300	VR., SEMIFIXED
R344	5280021500	VR., SEMIFIXED
U301	5220428100	IC, CX20109
U302	5220428000	IC, CX20108
U303U304	5220416200	IC, M5218L

POWER SW PCB ASSY

REF.NO.	PARTS NO.	DESCRIPTION
	*5200189230	POWER SW PCB ASSY [J,US,C,GE]
	*5200189240	POWER SW PCB ASSY [E,UK,A]
	*5210214400	POWER SW PCB
	⚠5300030800	SW.,PUSH SDL-1P POWER
	5780003006	SCREW,BIND M3X6
	⚠5292806300	FILTER,NOISE FK0B16MH13
	⚠5267703800	SPARK KILLER,4700PF400V
	5730007500	COVER, CONDENSER [E, UK,A]
	5327007200	TERMINAL, LAPPING 2P
	5327007300	TERMINAL, LAPPING 3P

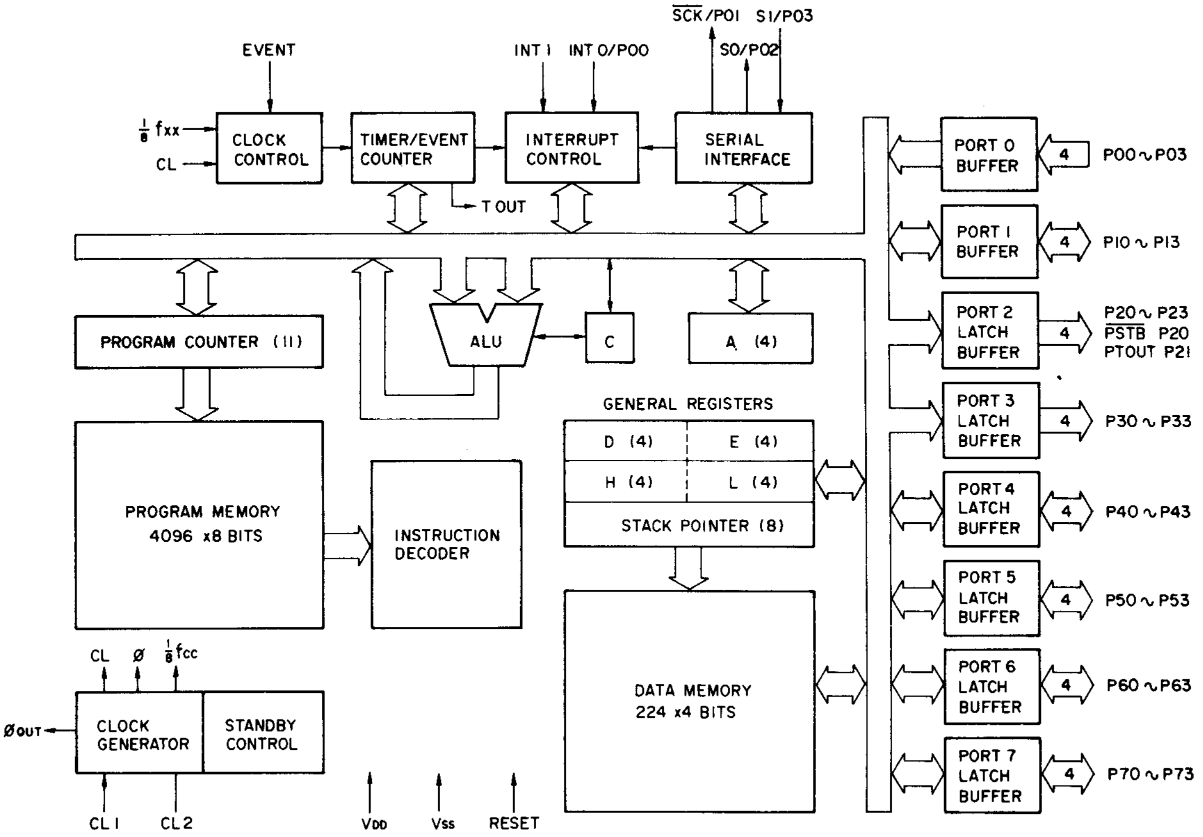
[US]:U.S.A. [E]:EUROPE [UK]:U.K. [C]:CANADA
[A]:AUSTRALIA [GE]:GENERAL EXPORT [J]: JAPAN

Parts marked with *require longer delivery time.

7 IC BLOCK DIAGRAMS

ICブロック・ダイヤグラム

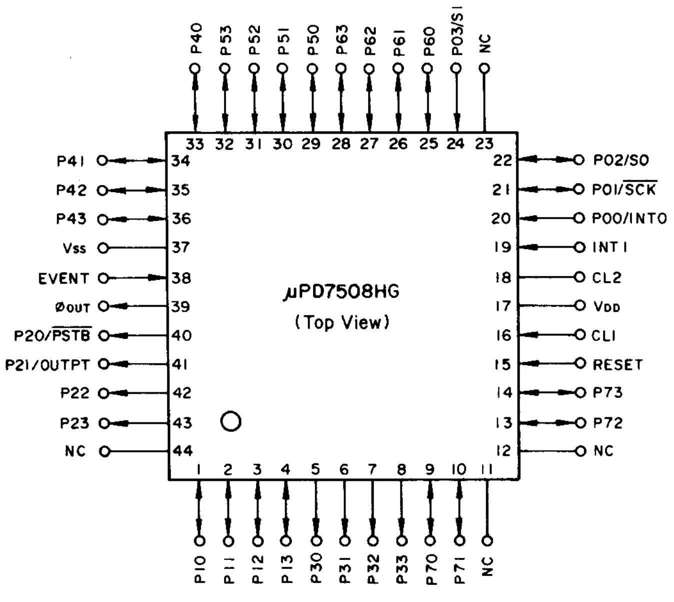
µPD7508HG


$\overline{SCK}$/P01
SI/P03
EVENT
INT 1
INT 0/P00
SO/P02
$\frac{1}{8}$ fxx
CL
CLOCK CONTROL
TIMER/EVENT COUNTER
INTERRUPT CONTROL
SERIAL INTERFACE
PORT 0 BUFFER
4
P00∿P03
T OUT
PORT 1 BUFFER
P10∿P13
PORT 2 LATCH BUFFER
P20∿P23
$\overline{PSTB}$ P20
PTOUT P21
PROGRAM COUNTER (11)
ALU
C
A (4)
PORT 3 LATCH BUFFER
P30∿P33
GENERAL REGISTERS
D (4)
E (4)
H (4)
L (4)
STACK POINTER (8)
PORT 4 LATCH BUFFER
P40∿P43
PROGRAM MEMORY 4096 x8 BITS
INSTRUCTION DECODER
PORT 5 LATCH BUFFER
P50∿P53
CL
Ø
$\frac{1}{8}$fcc
DATA MEMORY 224 x4 BITS
PORT 6 LATCH BUFFER
P60∿P63
ØOUT
CLOCK GENERATOR
STANDBY CONTROL
PORT 7 LATCH BUFFER
P70∿P73
CL1
CL2
VDD
Vss
RESET

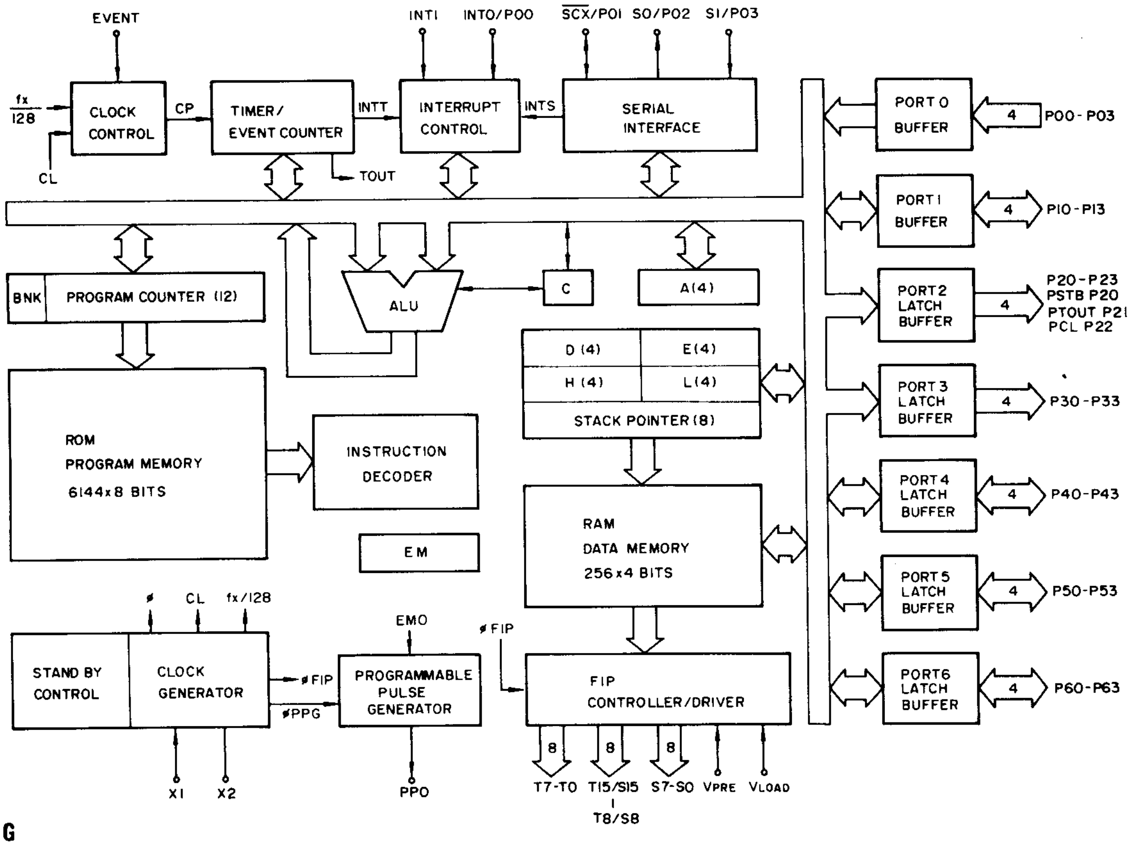
µPD7508HG
Pin Function 端子機能表

Pin No. 端子番号	Sym-bol 記号	I/O	Pin Function 端子機能
1	TRYC	I	Tray-close sensing signal.Active low. トレイクローズセンス信号でアクティブL
2	TRYO	I	Tray-open sensing signal.Active low トレイオープンセンス信号でアクティブL
3	CTRY	I	Clamper up/down sensing signal. Low when clamper is down. クランパー昇降センス信号；降時L
4	SYMI	I	Input signal from the D-latch 74HC74. Sub code sync sensing signal. Dラッチ74HC74からの入力信号でサブコードシンクのセンス信号
5	SYMO	O	Reset (clear) signal to D-latch 74HC74. Active low. Dラッチ74HC74へのリセット（クリア）信号アクティブL
6	DATA	O	Serial data output signal. Output from LSB シリアルデータ出力信号　LSB より出力
7	XLT	O	Serial data latch output signal. Latched at L. シリアルデータのラッチ出力信号Lでラッチ
8	CLK	O	Serial data transmission clock signal. シリアルデータ転送クロック信号
9	TCLD	O	Tray open output signal. トレイオープン出力信号
10	TOPN	O	Tray close output signal. トレイクローズ出力信号
11.12	NC	O	Not Connected 空端子
13	VCON	O	Tray drive voltage select signal when tray is operating. トレイ動作時のトレイ駆動用電圧切り換え信号
14	DIRC	O	Used when track is jumped. Normally H. Track junp direction is inverted to L, then normal tracking servo mode is set to H. (For details, refer to the Specifications of CX20108.) トラックジャンプ時に使用．通常はH． Lでトラックジャンプの方向を逆転，続いてHにすることでノーマルトラッキングサーボモードにセットされる．（詳細はCX20108 の仕様書を参照のこと．）
15	RST	I	Reset リセット
16	CL1	I	System clock generation (4.19MHz) システムクロック発生 (4.19MHz)
17	VDD		5 V 5 V
18	CL2	O	System clock generation (4.19MHz) システムクロック発生 (4.19MHz)
19	R/W	I	"READ OUT DATA " command signal for the data from R/W(INIT)and key microprocessor µ PD7519H. R／W (INT 1):KEY マイコンµPD7519H からの "データを読め" 命令信号.

Pin No. 端子番号	Symbol 記号	I/O	Pin Function 端子機能
20	INT	I	GND pin. Not used. GND 接地 空端子
21	WFCK	I	Input signal from CX23035,Pin 25 WFCK Sub code transmission signal CX23035 25pin WFCKからの入力信号でサブコード転送用クロック
22	NC		Not Connected 空端子
23	NC		Not Connected 空端子
24	SUBQ	I	Sub code Q signal (from CX23035, pin 23 SUBQ) サブコードQ信号 (from CX23035 23pin SUBQ)
25	DIN	I	Data input from the microprocessor μPD7519 KEY マイコンμPD7519からのデータ入力
26	SCOR	I	Sub code sync signal (from CX23035,pin24 SCOR) サブコードのシンク信号 (from CX23035 24 pin SCOR)
27	SBSO	I	Sub code P~W signal(from CX23035,pin22 SBSO) サブコードP～W信号 (from CX23035 22pin SBSO)
28	MIRR	I	Input signal to show the track is crossed トラックを横切ったことを示す入力信号
29	WREQ	O	Data write command clock to the key microprocessor μPD7519 KEY マイコンμPD7519へのデータ書き込み命令信号
30	CLK	O	Data transmission clock to the key microprocessor μPD7519 KEY マイコンμPD7519へのデータ転送用クロック
31	DOUT	O	8-bit serial data to the key microprocessor μPD7519 KEY マイコンμPD7519への8ビットシリアルデータ
32	SPS	O	Sled gain select signal. Normally H. In high - speed accessing, output L to raise the sled gain so that the sled moves quickly. スレッドゲイン切換信号 通常H 高速アクセス時Lを出力し，スロットゲインを上げスレッドを速く動かす.
33	CRCF	I	CRCC check flag of sub code Q.Correct:H, Error:L. (from CX23035 pin 20 CRCF) サブコードQのCRCCチェックフラグ 正→H, 誤→L (from CX2305 20pin CRCF)
34	GFS	I	Sensing signal to show the normal play status. (from CX23035 28pin GFS) 正常な再生状態を示すセンス信号 (from CX23035 28pin GFS)
35	FCSK	I	Focus servo sensing signal フォーカスサーボのセンス信号
36	SENS	I	Sensing signal to show the various conditions of focus operation, tracking operation and spindle operation. (For details, refer to the specifications of CX20108,CX23035) フォーカス動作，トラッキング動作，スピンドル動作時の様々な状態を示すセンス信号. (詳細はCX20108,CX23035 の仕様書を参照のこと)
37	Vss	O	GND GND
38	XI		Not connected 空端子
39	NC		Not connected 空端子
40	MUTG	O	Muting output signal for CX23035 CX2305用ミューティング出力信号
41	PWMT	O	Muting output signal for relay リレー用ミューティング出力信号
42	LASR	O	Laser ON/OFF output signal レーザ ON/OFF 出力信号
43	EMPS	O	Emphasis select output signal エンファシス切換出力信号
44	NC		Not connected 空端子


μPD7508HG
(Top View)
P40 33
P53 32
P52 31
P51 30
P50 29
P63 28
P62 27
P61 26
P60 25
P03/SI 24
NC 23
P41 34
P42 35
P43 36
Vss 37
EVENT 38
ØOUT 39
P20/PSTB 40
P21/OUTPT 41
P22 42
P23 43
NC 44
22 P02/SO
21 P01/SCK
20 P00/INT0
19 INT1
18 CL2
17 VDD
16 CL1
15 RESET
14 P73
13 P72
12 NC
1 P10
2 P11
3 P12
4 P13
5 P30
6 P31
7 P32
8 P33
9 P70
10 P71
11 NC

µPD7516HG

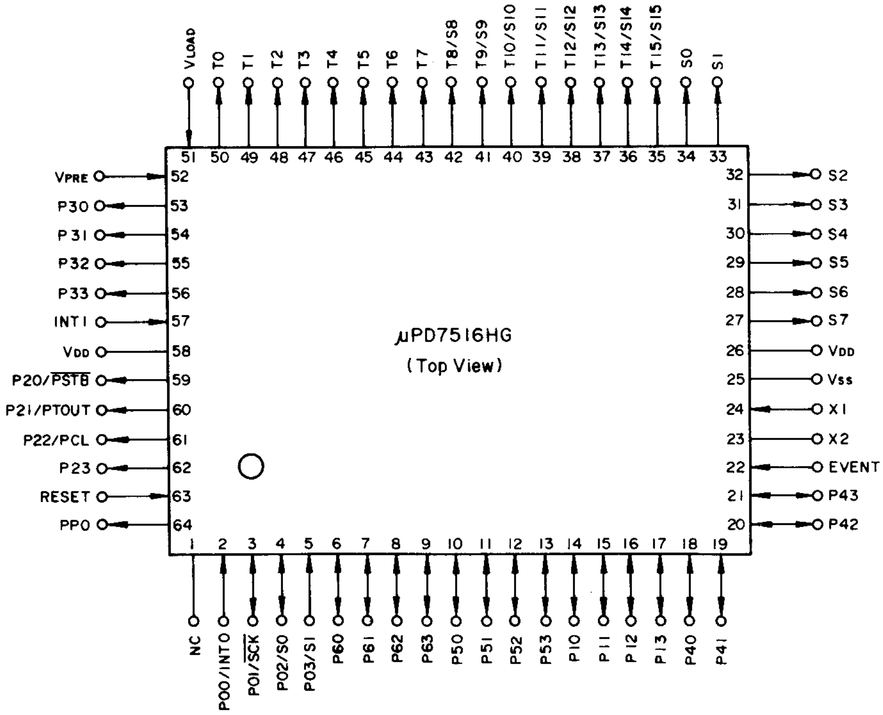

EVENT
INTI
INTO/POO
SCX/POI
SO/PO2
SI/PO3
fx/128
CL
CLOCK CONTROL
CP
TIMER/ EVENT COUNTER
INTT
TOUT
INTERRUPT CONTROL
INTS
SERIAL INTERFACE
PORT 0 BUFFER
4
POO-PO3
PORT I BUFFER
PIO-PI3
PORT2 LATCH BUFFER
P20-P23
PSTB P20
PTOUT P21
PCL P22
PORT3 LATCH BUFFER
P30-P33
PORT4 LATCH BUFFER
P40-P43
PORT5 LATCH BUFFER
P50-P53
PORT6 LATCH BUFFER
P60-P63
BNK
PROGRAM COUNTER (12)
ALU
C
A(4)
D (4)
E(4)
H (4)
L(4)
STACK POINTER (8)
ROM PROGRAM MEMORY 6144x8 BITS
INSTRUCTION DECODER
EM
RAM DATA MEMORY 256x4 BITS
ø
CL
fx/128
EMO
øFIP
STAND BY CONTROL
CLOCK GENERATOR
øFIP
øPPG
PROGRAMMABLE PULSE GENERATOR
FIP CONTROLLER/DRIVER
8
XI
X2
PPO
T7-TO
TI5/SI5
T8/S8
S7-SO
VPRE
VLOAD

µPD7516HG
Pin Function 端子機能表

Pin No. 端子番号	Symbol 記号	I/O	Pin Function 端子機能
1	NC		Not connected 空端子
2	WREQ	I	Control signal for communication with the servo microprocessor(7508HG). High(+5V)when data from the servo microprocessor is being received. サーボマイコン（7508HG）との通信用コントロール信号で，この端子が H（＋５Ｖ）のときサーボマイコンからデータを受信している状態にある．
3	$\overline{\text{SCK}}$	I	Clock signal for communication with the servo microprocessor. サーボマイコンとの通信用クロック信号．
4	SO	O	Data Out signal from the display microprocessor (7516HG)to the servo microprocessor ディスプレイマイコン（7516HG）からサーボマイコンへのデータOUT 信号．
5	SI	I	Data receiving signal from the servo microprocessor to the display microprocessor. サーボマイコンからディスプレイマイコンへのデータ受信信号．
6	TOPN	I	Tray-open signal. Low(0 V)when the tray is open. トレーオープン信号で "L"（０Ｖ）のとき，トレーが開いてる状態．
7	TCLD	I	Tray-closs signal. Low when the tray is closed. トレークローズ信号で "L" のとき，トレーが閉じている状態．
8	P62	I	Timer switch and memory switch(ZD-3000)input pin. タイマーSWおよびメモリーSW（ZD-3000） の入力端子．
9	D4	I	Data input pin of remote control signal. リモコンのデータ入力端子．
10 ↓ 13	KD4 KD5 KD6 KD7	I	Operation switch input pins. 操作スイッチの入力端子．
14 ↓ 17	D0 D1 D2 D3	I	Remote control data input pins. リモコンのデータ入力端子．
18 ↓ 21	KD0 KD1 KD2 KD3	I	Operation switch input pins. 操作スイッチの入力端子．
22	EVENT		Not used 今回は使用せず．
23 24	X2 X1		Clock oscillation pin of the microprocessor. Oscillation frequency is 4.19 MHz. マイコンのクロック発振用端子です．4.19MHz で発振させている．
25	Vss		GND pin GND 端子
26	Vdd		＋５Ｖ pin ＋５Ｖ端子

Pin No. 端子番号	Sym-bol 記号	I/O	Pin Function 端子機能
27 ↓ 34	S7 S6 S5 S4 S3 S2 S1 S0	O	Segment data output pins for FIP FIP 用のセグメントデータ出力端子
35 36	Vol- Vol+	O	Remote control volume pins リモコンボリューム用端子
37	S13		Not used 使用していない
38	S12	O	"NEXT"display output pin(displayed at low level) "NEXT" 表示用出力端子（"L" で表示）
39	S11	O	"INDEX"display output pin(displayed at lowlevel) "INDEX " 表示用出力端子（"L" で表示）
40	S10	O	DISC display output pin (displayed at hiqh level) DISC表示用出力端子（"H" で表示）
41	S9	O	PAUSE display output pin(displayed at hiqh level) PAUSE 表示用出力端子（"H" で表示）
42	S8	O	PLAY display output pin (displayed at hiqh level) PLAY表示用出力端子（"H" で表示）
43 ↓ 50	T7 T6 T5 T4 T2 T3 T1 T0	O	Timing date output pins for FIP FIP 用のタイミングデータ出力端子
51	Vload		Pull-down resistor power supply for FIP (-30v) FIP 用のプルダウン抵抗用電源（－３０Ｖ）

Pin No. 端子番号	Sym-bol 記号	I/O	Pin Function 端子機能
52	Vpre		FIP drive power supply pin FIP ドライブ用電源端子
53			Used to communicate with the servo microprocessor when "WREQ" pin is low and R/W pin is high, command is output from the display microprocessor to the servo microprocessor. サーボマイコンとの交信に用いる端子．"WREQ" 端子が "L"，R/W 端子が "H" にあるとき，ディスプレイマイコンからサーボマイコンへコマンドを出力
54	RSV	O	Timer scan output pin タイマースキャン出力端子
55	TM1	O	Memory scan output pin メモリーキースキャン出力端子
56	TM0		Not used 使用せず
57	INT1	I	Remote control input pin. High when the remote control signal is input. リモートコントロール入力端子．リモートコントロール入力があると "H"
58	Vdd		＋５Ｖ power supply pin ＋５Ｖ電源端子
59 60 61 62	KS0 KS1 KS2 KS3	O	Operation key scan output signal 操作キースキャン出力信号
63	RESET	I	Reset input pin リセット入力端子
64	PPO		Not used 使用せず



µPD7516HG
(Top View)
VLOAD
T0
T1
T2
T3
T4
T5
T6
T7
T8/S8
T9/S9
T10/S10
T11/S11
T12/S12
T13/S13
T14/S14
T15/S15
S0
S1
51 50 49 48 47 46 45 44 43 42 41 40 39 38 37 36 35 34 33
VPRE 52
P30 53
P31 54
P32 55
P33 56
INT1 57
VDD 58
P20/PSTB 59
P21/PTOUT 60
P22/PCL 61
P23 62
RESET 63
PPO 64
32 S2
31 S3
30 S4
29 S5
28 S6
27 S7
26 VDD
25 Vss
24 X1
23 X2
22 EVENT
21 P43
20 P42
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
NC
P00/INT0
P01/SCK
P02/SO
P03/SI
P60
P61
P62
P63
P50
P51
P52
P53
P10
P11
P12
P13
P40
P41

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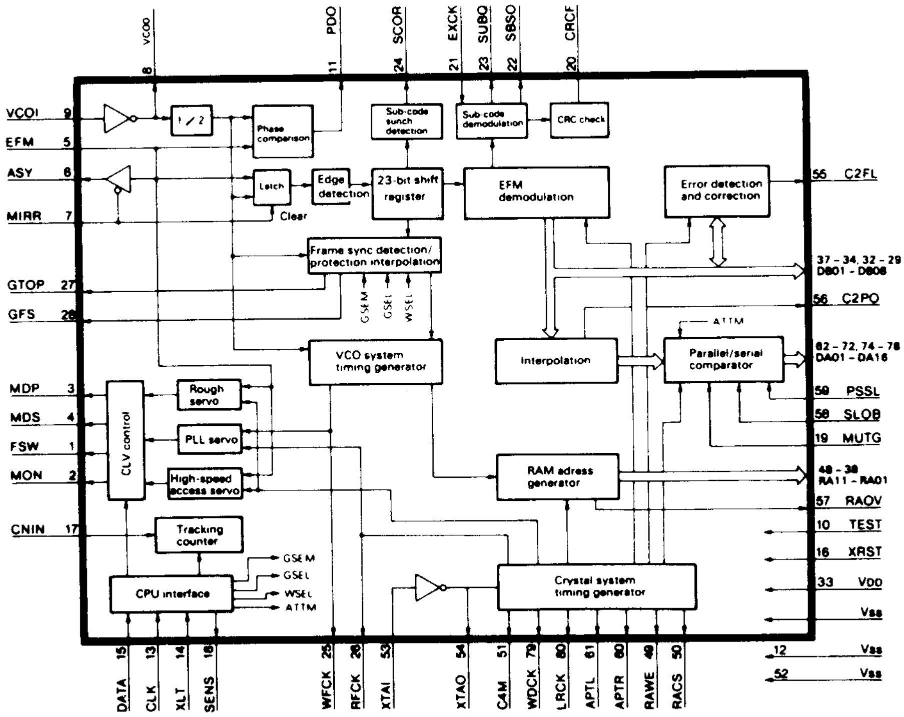
VCOO
8
PDO
11
SCOR
24
EXCK
21
SUBQ
23
SBSO
22
CRCF
20
VCOI 9
EFM 5
ASY 6
MIRR 7
GTOP 27
GFS 26
MDP 3
MDS 4
FSW 1
MON 2
CNIN 17
1/2
Phase comparison
Sub-code sunch detection
Sub-code demodulation
CRC check
Latch
Clear
Edge detection
23-bit shift register
EFM demodulation
Error detection and correction
Frame sync detection/ protection interpolation
GSEM
GSEL
WSEL
VCO system timing generator
Interpolation
ATTM
Parallel/serial comparator
Rough servo
PLL servo
High-speed access servo
CLV control
RAM adress generator
Tracking counter
CPU interface
GSEM
GSEL
WSEL
ATTM
Crystal system timing generator
55 C2FL
37 - 34, 32 - 29
DB01 - DB08
56 C2PO
62 - 72, 74 - 78
DA01 - DA16
59 PSSL
58 SLOB
19 MUTG
48 - 38
RA11 - RA01
57 RAOV
10 TEST
16 XRST
33 VDD
Vss
12 Vss
52 Vss
DATA 15
CLK 13
XLT 14
SENS 18
WFCK 25
RFCK 26
XTAI 53
XTAO 54
C4M 51
WDCK 79
LRCK 80
APTL 61
APTR 60
RAWE 49
RACS 50

CX23035
Pin Function 端子機能表

Pin No. 端子番号	Symbol 記号	I/O 入出力	Function 機　能
1	FSW	Output	Time constant selection of disc motor drive output filter ディスクモータの出力フィルタの定時数切換出力
2	MON	Output	Disc motor ON/OFF control output ディスクモータのON/OFFコントロール出力
3	MDP	Output	Drive output for disk drive. Rough control in CLV-S mode and phase control in CLV-P mode. ディスクモータのドライブ出力. CLV-S モード時のラフ制御とCLV-P モード時の位相制御
4	MDS	Output	Drive output for disk motor. Speed control in CLV-P mode. ディスクモータのドライブ出力. CLV-P モード時の速度制御
5	EFM	Input	EFM signal input from amplifier IC プリアンプICからEFM 信号入力
6	ASY	Output	Preamplifier IC slice level control output EFM 信号のスライスレベルコントロール用出力
7	MIRR	Input	MIRR input from preamplifier IC プリアンプICからMIRROR入力
8	VCOO	Output	VCO output f=8.6436MHz VCO 出力. f=8.6436MHz
9	VCO2	Input	VCO input VCO 入力
10	TEST	Input	Test Pin テスト端子
11	PDO	Output	PLL phase comparison output PLL の位相比較出力
12	VSS	–	GND GND
13	CLK	Input	Serial data transmission clock input from microprocessor マイコンからのシリアルデータ転送クロック入力
14	XLT	Input	Input from microprocessor マイコンからのシリアルデータラッチ入力
15	DATA	Input	Serial data input from microprocessor マイコンからのシリアルデータ入力
16	XRST	Input	System reset input. "L" : Reset. システムリセット入力. "L" でリセット
17	CNIN	Input	Tracking pulse input トラッキングパルスの入力
18	SENS	Output	Output of servo status upon reception of serial data from microprocessor マイコンからのシリアルデータによりサーボ状態を出力
19	MUTG	Input	Muting input. When ATTM for internal register A is "L", MUTG is "L"(normal). When ATT is "H", muting is effected. ミューティング入力. 内部レジスタA のATTMが"L" の時, MUTGが"L" でノーマル状態. "H" で無音状態
20	CRCF	Output	Result of CRC check on sub-code Q is output. サブコードQ のCRC チェックの結果を出力
21	EXCK	Input	Clock input for serial output of sub-code サブコードのシリアル出力の為のクロック入力
22	SBSO	Output	Serial output of sub-code サブコードのシリアル出力
23	SUBQ	Output	Sub-code Q output サブコードQ 出力
24	SCOR	Output	Sub-code SYNC S0+S1 output サブコードシンクS0+S1 出力

Pin No. 端子番号	Symbol 記号	I/O 入出力	Function 機　能
25	WFCK	Output	Write frame clock output Write Frame Clock 出力
26	RFCK	Output	Read frame clock output. 7.35 kHz for crystal system. Read Frame Clock出力. X'tal 系の 7.35kHz
27	GTOP	Output	Output for display of frame synchro protection status フレーム同期保護状態の表示出力
28	GFS	Output	Output for display of frame synchro clock status フレームシンクのロック状態の表示出力
29	DB08	Input/ output	I/O pin on external RAM(MSB) 外部RAM のデータ入出力端子. (MSB)
30	DB07	Input/ output	I/O pin on external RAM 外部RAM のデータ入出力端子
31	DB06	Input/ output	I/O pin on external RAM 外部RAM のデータ入出力端子
32	DB05	Input/ output	I/O pin on external RAM 外部RAM のデータ入出力端子
33	VDD	—	Power supply (+5V) 電源 (+5V)
34	DB04	Input/ output	I/O pin on external RAM 外部RAM のデータ入出力端子
35	DB03	Input/ output	I/O pin on external RAM 外部RAM のデータ入出力端子
36	DB02	Input/ output	I/O pin on external RAM 外部RAM のデータ入出力端子
37	DB01	Input/ output	I/O pin on external RAM(MSB) 外部RAM のデータ入出力端子. (LSB)
38	RA01	Output	Output of external RAM address 外部RAM のアドレス出力.　(LSB)
39	RA02	Output	Output of external RAM address 外部RAM のアドレス出力
40	RA03	Output	Output of external RAM address 外部RAM のアドレス出力
41	RA04	Output	Output of external RAM address 外部RAM のアドレス出力
42	RA05	Output	Output of external RAM address 外部RAM のアドレス出力
43	RA06	Output	Output of external RAM address 外部RAM のアドレス出力
44	RA07	Output	Output of external RAM address 外部RAM のアドレス出力
45	RA08	Output	Output of external RAM address 外部RAM のアドレス出力
46	RA09	Output	Output of external RAM address 外部RAM のアドレス出力
47	RA10	Output	Output of external RAM address 外部RAM のアドレス出力
48	RA11	Output	Output of external RAM address 外部RAM のアドレス出力.　(MSB)
49	RAWE	Output	Write Enable signal output to external RAM. 外部RAM への Write Enable 信号出力
50	RACS	Output	Chip Select signal output to external RAM. 外部RAM への Chip Select 信号出力

Pin No. 端子番号	Symbol 記号	I/O 入出力	Function 機　能
51	C4M	Output	1/2 demultiplication output for crystal. f=4.2336 MHz X tal の1/2 分周出力. f=4.2336MHz
52	VSS	—	GND GND
53	XTA1	Output	16 bit parallel data (MSB) X tal 発振回路出力.　f=8.4672MHz
54	XTA0	Input	8.64 MHz oscillation circuit output X tal 発振回路入力.　f=8.4672MHz
55	C2FL	Output	Correction status output. This signal goes "H" when correction of C2 system currently being corrected is not possible. 訂正状態出力. 現在訂正中のC2系列が訂正不可能の場合"H" となる
56	C2PO	Output	C2 pointer display output. Error graph synchronized with audio data output. C2ポインタの表示出力. オーディオデータ出力に同期したエラーフラブ
57	RAOV	Output	Over flow and under flow display output of ± 4 frame jitter suction RAM. ±4 フレームのジッタ吸収用RAM のオーバーフロー, およびアンダーフロー表示出力
58	SLOB	Input	Code select input of audio data output. "L":2's complement output. オーディオデータ出力のコード切換入力. "L" で 2s コンプリメント出力
59	PSSL	Input	Audio data output mode switching input. "L" : Serial output. オーディオデータ出力のモード切換入力. "L" で シリアル出力
60	APTR	Output	Control output for aperture offset. R-ch: "H". アパーチャ補正用コントロール出力. R-chの時 "H"
61	APTL	Output	Control output for aperture offset. L-ch: "H". アパーチャ補正用コントロール出力. L-chの時 "H"
62	DA01	Output	C1F1 output C1F1
63	DA02	Output	C1F2. C1 error correction status output. C1F2. C1でのエラー訂正状態出力
64	DA03	Output	C2F1. C1 error correction status output. C2F1. C1でのエラー訂正状態出力
65	DA04	Output	C2F2. C2 error correction status output. C2F2. C2でのエラー訂正状態出力
66	DA05	Output	UGFS. C2 error correction status output. UGFS. C2でのエラー訂正状態出力
67	DA06	Output	$\overline{\text{WFCK}}$. Reverse output for WFCK $\overline{\text{WFCK}}$. WFCKの反転出力
68	DA07	Output	FCKV. WFCK/4 output FCKV. WFCK/4　出力
69	DA08	Output	FCKX. RFCK/4 output FCKX. RFCK/4　出力
70	DA09	Output	$\overline{\text{PLCK}}$. VCO/2 output. f=4.3218MHz $\overline{\text{PLCK}}$. VCO/2 出力. f=4.3218MHz
71	DA10	Output	$\overline{\text{LRCK}}$. Reverse output of LRCK $\overline{\text{LRCK}}$. LRCKの反転出力
72	DA11	Output	C4LR. Strobe signal. 176.4kHz C4LR. ストローブ信号　176.4kHz
73	VDD	—	Power supply (+5V) 電源 (+5V)

Pin No. 端子番号	Symbol 記号	I/O 入出力	Function 機　能
74	DA12	Output	$\overline{\text{DENL}}$. L-ch serial data enable signal. $\overline{\text{DENL}}$. L-chシリアルデータイネーブル信号
75	DA13	Output	$\overline{\text{DENR}}$. R-ch serial data enable signal. $\overline{\text{DENR}}$. R-chシリアルデータイネーブル信号
76	DA14	Output	$\overline{\text{C210}}$. Reverse output for C210 $\overline{\text{C210}}$. C210の反転出力
77	DA15	Output	C210. Bit clock output. f=2.1168MHz C210. ビットクロック出力　f=2.1168MHz
78	DA16	Output	DATA. Serial data output of audio signal. DATA. オーディオ信号のシリアルデータ出力
79	WDCK	Output	88.2kHz strobe signal output 88.2kHz ストローブ信号出力
80	LRCK	Output	44.1kHz strobe signal output 44.1kHz ストローブ信号出力

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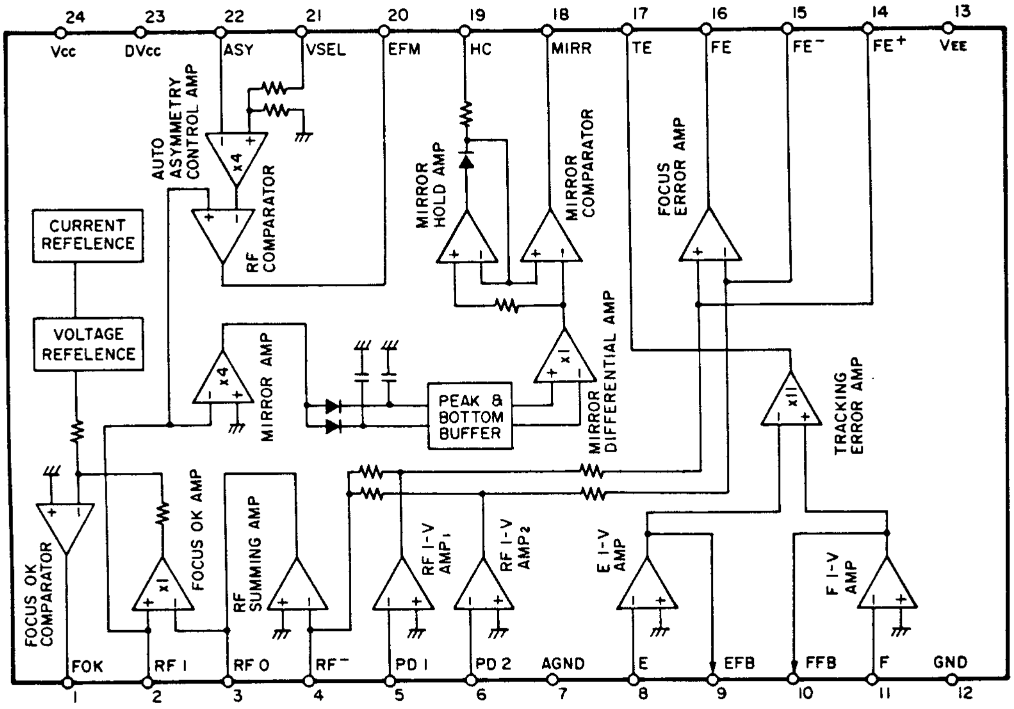
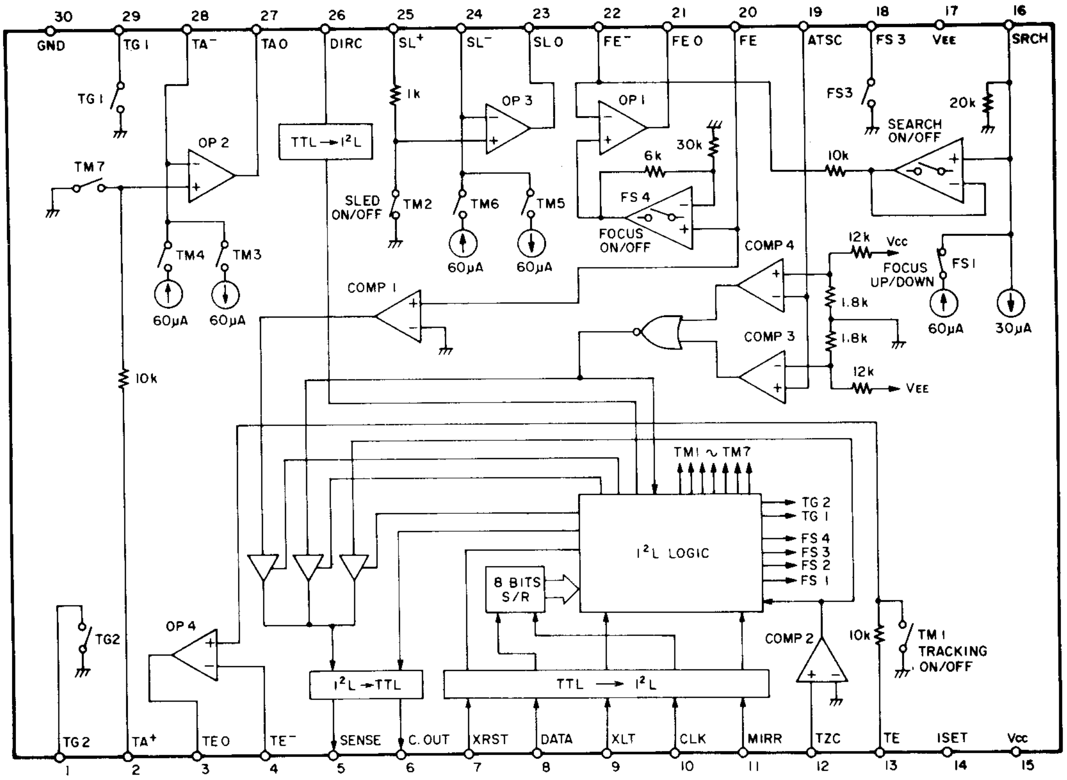

24
23
22
21
20
19
18
17
16
15
14
13
Vcc
DVcc
ASY
VSEL
EFM
HC
MIRR
TE
FE
FE⁻
FE⁺
VEE
AUTO ASYMMETRY CONTROL AMP
x4
RF COMPARATOR
CURRENT REFELENCE
VOLTAGE REFELENCE
MIRROR HOLD AMP
MIRROR COMPARATOR
FOCUS ERROR AMP
MIRROR AMP
x4
PEAK & BOTTOM BUFFER
x1
MIRROR DIFFERENTIAL AMP
TRACKING ERROR AMP
x11
FOCUS OK COMPARATOR
FOCUS OK AMP
x1
RF SUMMING AMP
RF I-V AMP₁
RF I-V AMP₂
E I-V AMP
F I-V AMP
FOK
RF I
RF O
RF⁻
PD 1
PD 2
AGND
E
EFB
FFB
F
GND
1
2
3
4
5
6
7
8
9
10
11
12

CX20109
Pin Function 端子機能表

Pin No. 端子番号	Symbol 記号	I/O 入出力	Function 機　能
1	FOK	Output	Forcus servo enable output. Active when comparator output high. フォーカス・サーボ許可の出力 コンパレータ出力 "H"でアクティブ
2	RFI	Input	Output of RF summing amplifier are C-coupled and input. RFサミング・アンプの出力が C結合されて入力される
3	RFO	Output	RF summing amplifier output RFサミング・アンプ出力
4	RF⁻	Input	RF summing amplifier inverted input RFサミング・アンプ反転入力
5	PD1	Input	RF I-V amplifier (1) inverted input RF I-V AMP (1)反転入力
6	PD2	Input	RF I-V amplifier (2) inverted input RF I-V AMP (2)反転入力
7	AGND	–	GND for small signal analog circuit 小信号アナログ系 GND
8	E	Input	E I-V amplifier inverted input E I-V AMP 反転入力
9	EFB	Output	E I-V amplifier output E I-V AMP 出力
10	FFB	Output	F I-V amplifier output F I-V AMP 出力
11	F	Input	F I-V amplifier inverted input F I-V AMP 反転入力
12	GND	–	GND

Pin No. 端子番号	Symbol 記号	I/O 入出力	Function 機　能
13	VEE	–	Negative power supply 負電源
14	FE⁺	Input	Focus error amplifier non-inverted input フォーカス・エラー・アンプ非反転入力
15	FE⁻	Input	Focus error amplifier inverted input フォーカス・エラー・アンプ反転入力
16	FE	Output	Focus error amplifier output フォーカス・エラー・アンプ出力
17	TE	Output	Tracking error amplifier output トラッキング・エラー・アンプ出力
18	MIRR	Output	Mirror output comparator output ミラー出力コンパレータ出力
19	HC	Input	Mirror hold capacitor connection pin ミラー・ホールド・コンデンサ接続端子
20	EFM	Output	EFM output comparator output EFM 出力コンパレータ出力
21	VSEL	Input	Auto asymmetry control amplifier reference level setting pin. Vcc when ±5V power is supplied. GND when +10V power is supplied. オート・アシンメトリー・コントロール・アンプのリファレンス入力レベル設定用端子. ±5V電源時 Vcc, +10V 電源時 GND.
22	ASY	Input	Auto asymmetry control input オート・アシンメトリー・コントロール入力
23	DVcc	–	Positive power supply for EFM comparator circuit EFM コンパレータ系正電源
24	Vcc	–	Positive power supply 正電源

CX20108


30 GND
29 TG1
28 TA⁻
27 TAO
26 DIRC
25 SL⁺
24 SL⁻
23 SLO
22 FE⁻
21 FEO
20 FE
19 ATSC
18 FS3
17 VEE
16 SRCH
TG1
OP 2
TM7
TM4
TM3
60μA
60μA
10k
TTL → I²L
1k
SLED ON/OFF
TM2
TM6
TM5
60μA
60μA
OP 3
OP 1
6k
30k
FS 4
FOCUS ON/OFF
FS3
SEARCH ON/OFF
20k
10k
COMP 4
12k
Vcc
FOCUS UP/DOWN
FS1
1.8k
1.8k
60μA
30μA
COMP 3
12k
VEE
COMP 1
TM1 ∼ TM7
TG 2
TG 1
FS 4
FS 3
FS 2
FS 1
I²L LOGIC
8 BITS S/R
COMP 2
10k
TM1 TRACKING ON/OFF
TG2
OP 4
I²L → TTL
TTL → I²L
1 TG2
2 TA⁺
3 TEO
4 TE⁻
5 SENSE
6 C.OUT
7 XRST
8 DATA
9 XLT
10 CLK
11 MIRR
12 TZC
13 TE
14 ISET
15 Vcc

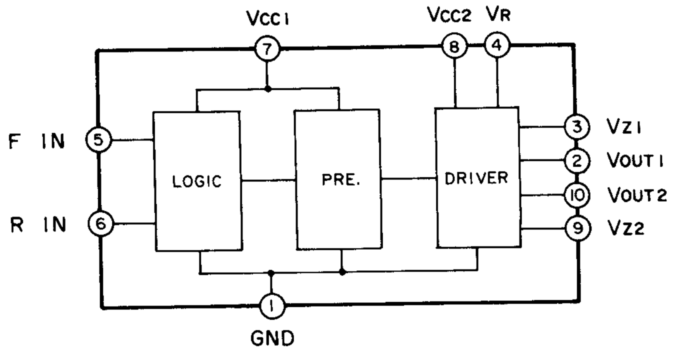
CX20108

Pin Function 端子機能表

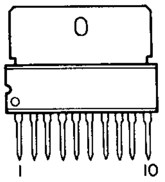
Pin No. 端子番号	Symbol 記号	I/O	Pin Function 端子機能
1	TG2		Tracking amp gain select pin. Open or GND level. トラッキングアンプ　ゲイン切換用端子. オープンあるいはGND レベルになる.
2	TA +		Not-inverting input of Op. amp 2 オペアンプ　2の非反転入力.
3	TEO		Output of Op. amp 4 オペアンプ　4の出力.
4	TE -		Inverting input of Op. amp 4 オペアンプ　4の反転入力.
5	SENSE	O	SSP internal status output corresponding to CPUto SSP address. (Varied depending on the address contents of the internal serial register) CPU →SSP のADDRESS に対応したSSP 内部状態の出力. (内部シリアルレジスタのADDRESS 内容で変化する.)
6	C.OUT	O	Track number counting signal output in high - speed access. 高速アクセス時のトラック数カウント用信号出力.
7	XRST	I	CPU to SSP. All the internal registrations are cleared when low. Connected to CPU RESET. CPU →SSP　Lowで内部レジスタすべてのClear を行う. CPU RESET と接続.
8	DATA	I	Serial data transmission from CPU to SSP. Input from LSB. D0-D7 CPU →SSP へのシリアルデータ転送. LSB から入力する. D0～D7
9	XLT	I	CPU to SSP serial data latch. (THE internal serial shift registered contents are trans - mitted to each latch address decoded). Trans - mitted at low. As this is not the edge trigger, it should be H before and after transmission. CPU →SSP シリアルデータのラッチ. (内部シリアルシフトレジスタの内容をアドレスデコードされた各ラッチへ転送.) Low で転送する. エッジトリガでないので実行後すぐにHighに戻す必要有り.
10	CLK	I	CPU to SSP serial data transmission clock. Inputs the data at the trailing edge. This should be H before and after transmission. CPU →SSP シリアルデータ転送クロック. 立ち下がりエッジでデータを取り込む. 転送前後で　H　にしておく必要がある.
11	MIRR	I	Mirror signal input from the RF amp. RFアンプよりのミラー信号入力.
12	TZC		Inputs the tracking error signal in C-coupled (collector-coupled) logic. Time constant is determined by 1-track jump, normally approx. 2kHz. トラッキングエラー信号をCカップルで入力. 時定数は1トラックジャンプで決めるが, 通常2kHz 程度.
13	TE		Tracking error signal input. トラッキングエラー信号入力.
14	ISET		Sets the current value for setting the focus search voltage, tracking jump voltage and sled feed voltage. フォカスサーチ電圧, トラッキングジャンプ電圧, スレッド送り電圧を定める電流値の設定.

Pin No. 端子番号	Sym-bol 記号	I/O	Pin Function 端子機能
15	Vcc		Power supply pin. Normally + 5 V. 電源端子. 通常＋5 V
16	SRCH		Connected to the capacitor which sets the time constant of the charging/discharging waveforms for focus search. フォーカスサーチ用充放電波形の, 時定数を決めるコンデンサを接続.
17	V EE		Power supply pin. Normally − 5 V. 電源端子. 通常－5 V
18	FS3		Focus amp gain select pin. Set open or GND level. フォーカスアンプゲイン切換用端子. オープンあるいはGND レベルになる.
19	ATSC		Inputs the information when a mechanical shock is applied to the player. For simplified connection, inputs the tracking error signal through BPF. If not needed, connect to GND. プレイヤーに機械的ショックが加わったという情報を入力する. 簡易的には, トラッキングエラーをBPF を通して入力する. 不要ならばGND に接続する.
20	FE		Focus error signal input. フォーカスエラー信号の入力.
21	FEO		Output of Op. amp 1 オペアンプ1の出力.
22	FE-		Inverting input of Op. amp 1 オペアンプ1の反転入力.
23	SLO		Output of Op. amp 3 オペアンプ3の出力.
24	SL −		Inverting input of Op. amp 3 オペアンプ3の反転入力.
25	SL +		Non-inverting input of Op. amp 3 オペアンプ3の非反転入力.
26	DIRC	I	Used in 1-track jump operation. Normally H. Turns L to invert the track jump pulse direction. Then turns H to set the normal tracking mode. Kept low for a fixed time by detecting the rising and trailing edges of TZC. 1トラックジャンプ時に使用. 通常 H. Lでトラックジャンプパルスの方向を逆転. 続いてHにすることでNormal Traking Mode にSet. TZCの立ち上がり, 立ち下がりの検出で一定時間Low にする.
27	TAO		Output of Op. amp 2 オペアンプ2の出力.
28	TA −		Inverting output of Op. amp 2 オペアンプ2の反転出力.
29	TG1		Tracking amp gain select pin. Set to open or GND level. トラッキングアンプ ゲイン切換用端子. オープンあるいはGND レベルになる.
30	GND		GND pin of IC ICのGND 端子.

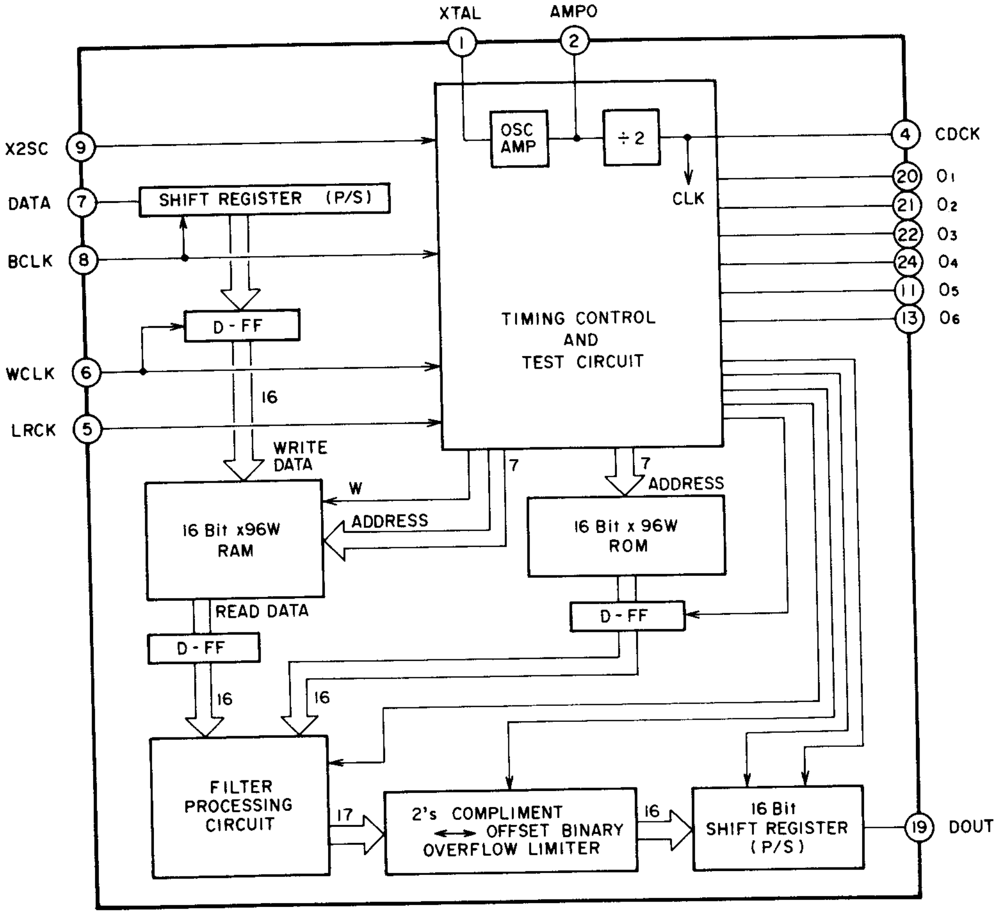
BA6109


VCC1
7
VCC2
8
VR
4
F IN
5
R IN
6
LOGIC
PRE.
DRIVER
3
VZ1
2
VOUT1
10
VOUT2
9
VZ2
1
GND

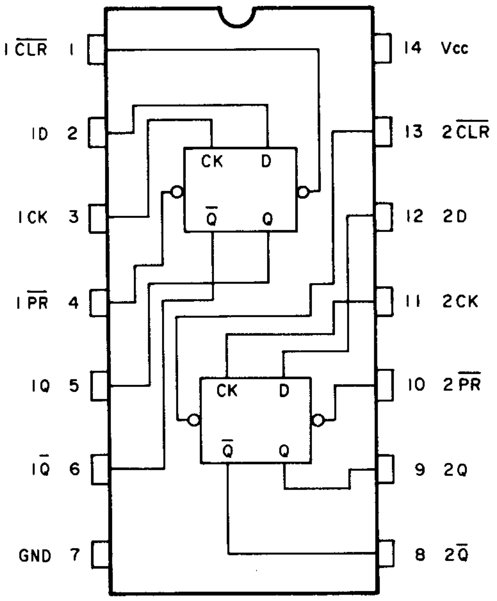
F IN	R IN	VOUT1	VOUT2
H	H	L	L
L	H	L	H
H	L	H	L
L	L	OPEN	OPEN



CX23034

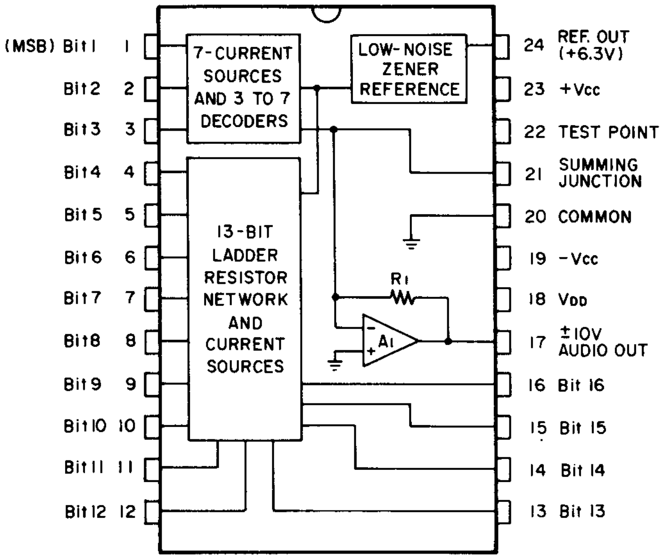

XTAL
1
AMPO
2
X2SC
9
DATA
7
BCLK
8
WCLK
6
LRCK
5
OSC AMP
÷2
CLK
4
CDCK
20
O1
21
O2
22
O3
24
O4
11
O5
13
O6
SHIFT REGISTER (P/S)
D-FF
16
TIMING CONTROL AND TEST CIRCUIT
WRITE DATA
W
ADDRESS
7
7
ADDRESS
16 Bit x96W RAM
16 Bit x 96W ROM
READ DATA
D-FF
D-FF
16
16
FILTER PROCESSING CIRCUIT
17
2's COMPLIMENT ↔ OFFSET BINARY OVERFLOW LIMITER
16
16 Bit SHIFT REGISTER (P/S)
19
DOUT

TC74HC74P


1 CLR 1
1D 2
1CK 3
1 PR 4
1Q 5
1Q̄ 6
GND 7
14 Vcc
13 2 CLR
12 2D
11 2CK
10 2 PR
9 2Q
8 2Q̄
CK
D
Q̄
Q

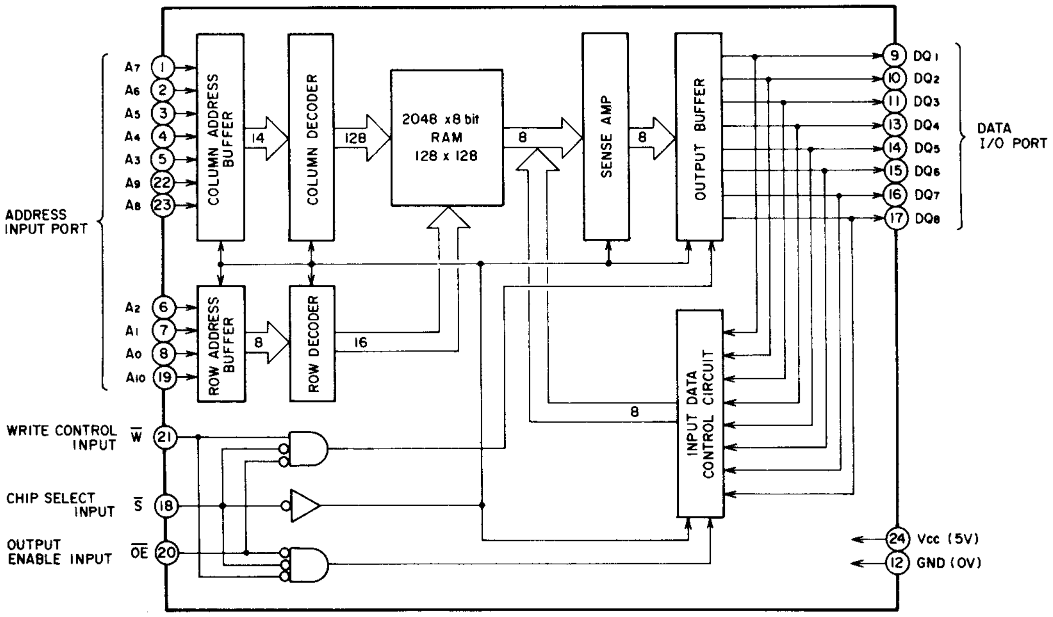
(TOP VIEW)

PCM53JP-V

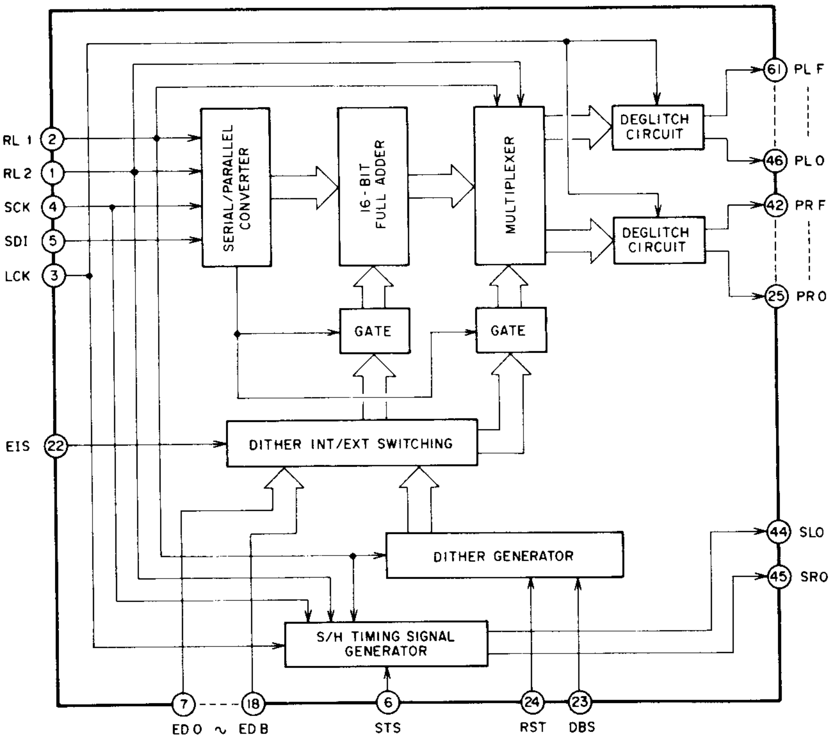

(MSB) Bit1 1
Bit2 2
Bit3 3
Bit4 4
Bit5 5
Bit6 6
Bit7 7
Bit8 8
Bit9 9
Bit10 10
Bit11 11
Bit12 12
24 REF. OUT (+6.3V)
23 +Vcc
22 TEST POINT
21 SUMMING JUNCTION
20 COMMON
19 -Vcc
18 VDD
17 ±10V AUDIO OUT
16 Bit 16
15 Bit 15
14 Bit 14
13 Bit 13
7-CURRENT SOURCES AND 3 TO 7 DECODERS
LOW-NOISE ZENER REFERENCE
13-BIT LADDER RESISTOR NETWORK AND CURRENT SOURCES
R1
A1

(TOP VIEW)

CXK5816M-15L


ADDRESS INPUT PORT
A7 1
A6 2
A5 3
A4 4
A3 5
A9 22
A8 23
A2 6
A1 7
A0 8
A10 19
COLUMN ADDRESS BUFFER
COLUMN DECODER
14
128
2048 x8 bit RAM 128 x 128
8
SENSE AMP
8
OUTPUT BUFFER
ROW ADDRESS BUFFER
8
ROW DECODER
16
INPUT DATA CONTROL CIRCUIT
8
9 DQ1
10 DQ2
11 DQ3
13 DQ4
14 DQ5
15 DQ6
16 DQ7
17 DQ8
DATA I/O PORT
WRITE CONTROL INPUT W̄ 21
CHIP SELECT INPUT S̄ 18
OUTPUT ENABLE INPUT OE 20
24 Vcc (5V)
12 GND (0V)

ADDER


RL 1 ②
RL 2 ①
SCK ④
SDI ⑤
LCK ③
EIS ㉒
SERIAL/PARALLEL CONVERTER
16-BIT FULL ADDER
MULTIPLEXER
DEGLITCH CIRCUIT
DEGLITCH CIRCUIT
GATE
GATE
DITHER INT/EXT SWITCHING
DITHER GENERATOR
S/H TIMING SIGNAL GENERATOR
㊶ PL F
㊻ PL O
㊷ PR F
㉕ PR O
㊹ SLO
㊺ SRO
⑦ EDO ~ ⑱ EDB
⑥ STS
㉔ RST
㉓ DBS

SCHEMATIC DIAGRAMS

ZD-6000/ZD-4000

NOTES

1. Resistor values are in ohms (k=kilo-ohms, M=megohms).
2. Capacitor values are in microfarads (p=picofarads).
3. Parts marked with ⚠ this sign are safety critical components. They must always be replaced with identical components-refer to the appropriate parts list and ensure exact replacement.

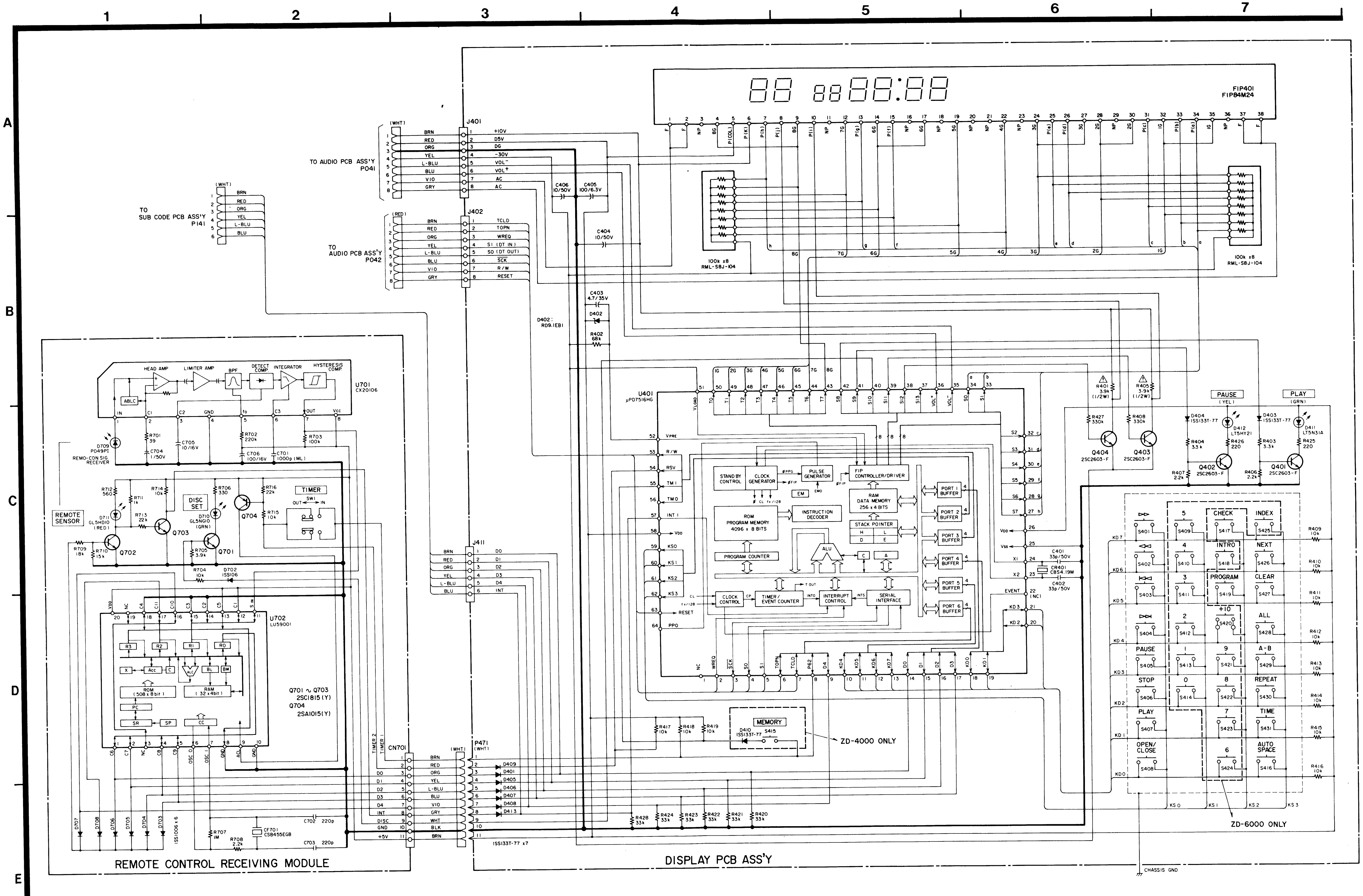
注意

1. 抵抗の単位はΩ(k＝kΩ，M＝MΩ)です
2. コンデンサの単位はμF(p＝pF)です．
3. ⚠マークのある部品は安全重要部品です．
   交換するときは必ずティアック指定の部品を使用してください．

INSTRUCTIONS FOR SERVICE PERSONNEL

BEFORE RETURNING APPLIANCE TO THE CUSTOMER, MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT.

TEAC SCHEMATIC DIAGRAM **ZD-6000/ZD-4000** DISPLAY PCB, REMOTE CONT. RECEIVING MODULE


1
2
3
4
5
6
7
A
B
C
D
E
FIP401
FIP84M24
J401
TO AUDIO PCB ASS'Y P041
(WHT)
BRN
RED
ORG
YEL
L-BLU
BLU
VIO
GRY
+10V
D5V
DG
-30V
VOL-
VOL+
AC
TO SUB CODE PCB ASS'Y P141
J402
TO AUDIO PCB ASS'Y P042
(RED)
TCLD
TOPN
WREQ
SI (DT IN)
SO (DT OUT)
SCK
R/W
RESET
C406 10/50V
C405 100/6.3V
C404 10/50V
C403 4.7/35V
D402
D402: RD9.1EB1
R402 68k
100k x8 RML-S8J-104
U401 μPD7516HG
STAND BY CONTROL
CLOCK GENERATOR
PULSE GENERATOR
FIP CONTROLLER/DRIVER
EM
RAM DATA MEMORY 256 x 4 BITS
ROM PROGRAM MEMORY 4096 x 8 BITS
INSTRUCTION DECODER
STACK POINTER
ALU
PROGRAM COUNTER
CLOCK CONTROL
TIMER/ EVENT COUNTER
INTERRUPT CONTROL
SERIAL INTERFACE
PORT 1 BUFFER
PORT 2 BUFFER
PORT 3 BUFFER
PORT 4 BUFFER
PORT 5 BUFFER
PORT 6 BUFFER
VPRE
R/W
RSV
TM1
TMO
INT1
VDD
VSS
KSO
KS1
KS2
KS3
RESET
PPO
EVENT
X1
X2
C401 33p/50V
CR401 CBS4.19M
C402 33p/50V
R401 3.9k (1/2W)
R405 3.9k (1/2W)
R427 330k
R408 330k
Q404 2SC2603-F
Q403 2SC2603-F
PAUSE (YEL)
PLAY (GRN)
D404 1SS133T-77
D403 1SS133T-77
D412 LT5HY21
D411 LT5N31A
R404 3.3k
R426 220
R403 3.3k
R425 220
R407 2.2k
R406 2.2k
Q402 2SC2603-F
Q401 2SC2603-F
CHECK
INDEX
INTRO
NEXT
PROGRAM
CLEAR
+10
ALL
PAUSE
A-B
STOP
REPEAT
PLAY
TIME
OPEN/ CLOSE
AUTO SPACE
S401
S402
S403
S404
S405
S406
S407
S408
S409
S410
S411
S412
S413
S414
S416
S417
S418
S419
S420
S421
S422
S423
S424
S425
S426
S427
S428
S429
S430
S431
R409 10k
R410 10k
R411 10k
R412 10k
R413 10k
R414 10k
R415 10k
R416 10k
KS0
KS1
KS2
KS3
ZD-6000 ONLY
CHASSIS GND
J411
D0
D1
D2
D3
D4
INT
R417 10k
R418 10k
R419 10k
MEMORY
D410 1SS133T-77
S415
ZD-4000 ONLY
R428 33k
R424 33k
R423 33k
R422 33k
R421 33k
R420 33k
P471 (WHT)
D409
D401
D405
D406
D407
D408
D413
1SS133T-77 x7
DISPLAY PCB ASS'Y
CN701
TIMER 2
TIMER 1
DISC
GND
+5V
BLK
WHT
U701 CX20106
HEAD AMP
LIMITER AMP
BPF
DETECT COMP.
INTEGRATOR
HYSTERESIS COMP
ABLC
R701 39
C704 1/50V
C705 10/16V
R702 220k
C706 100/16V
C701 1000p (ML)
R703 100k
D709 PD49PI
REMO-CON SIG RECEIVER
REMOTE SENSOR
R712 560
R711 1k
R713 22k
D711 GL5HD10 (RED)
R714 10k
DISC SET
D710 GL5NG10 (GRN)
R706 330
R716 22k
TIMER
SW1
OUT
IN
R715 10k
Q704
Q703
Q701
Q702
R709 18k
R710 15k
R705 3.9k
R704 10k
D702 1SS106
U702 LU5900I
ROM (508 x 8bit)
RAM (32 x 4bit)
Q701 ~ Q703 2SC1815 (Y)
Q704 2SA1015 (Y)
D707
D708
D706
D705
D704
D703
1SS106 x 6
R707 1M
R708 2.2k
CF701 CSB455EGB
C702 220p
C703 220p
REMOTE CONTROL RECEIVING MODULE

ZD-6000/ZD-4000 Compact Disc Player

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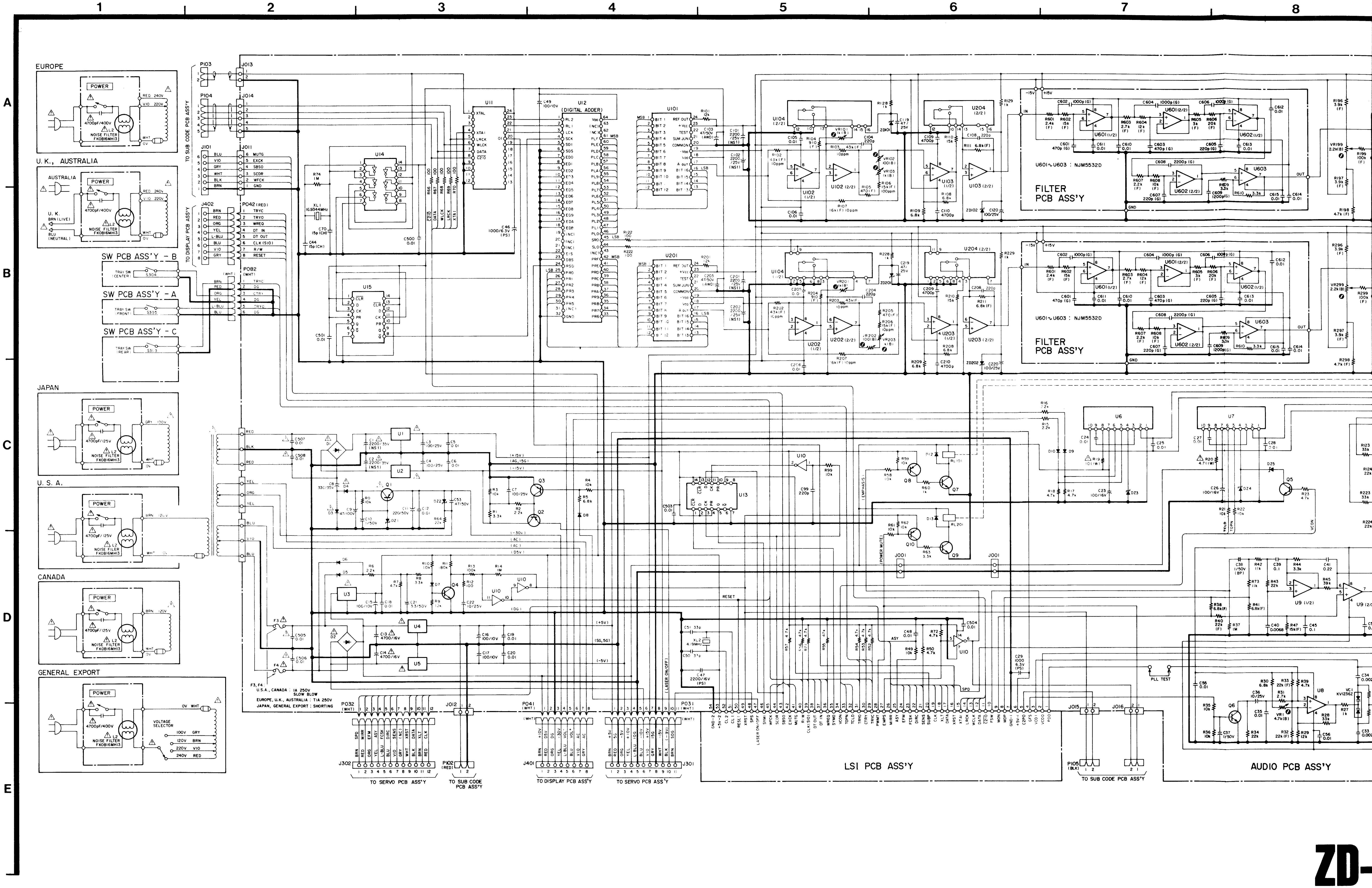
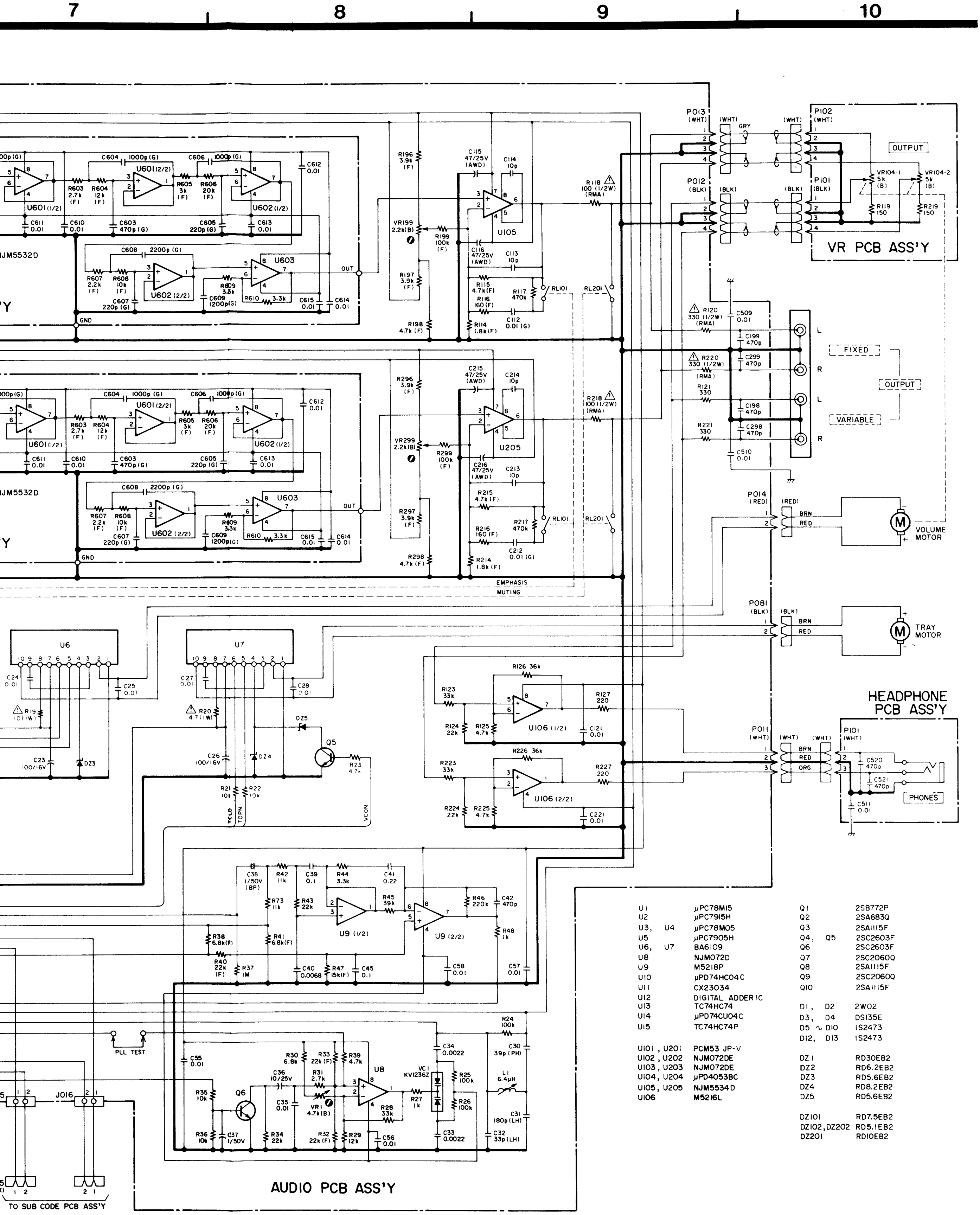
TEAC SCHEMATIC DIAGRAM **ZD-6000** AUDIO PCB



1
2
3
4
5
6
7
8
A
B
C
D
E
EUROPE
U. K., AUSTRALIA
JAPAN
U. S. A.
CANADA
GENERAL EXPORT
POWER
NOISE FILTER FK08I6MHI3
4700pF/400V
4700pF/125V
AUSTRALIA
U. K.
BRN (LIVE)
BLU (NEUTRAL)
VOLTAGE SELECTOR
100V GRY
120V BRN
220V VIO
240V RED
SW PCB ASS'Y - B
SW PCB ASS'Y - A
SW PCB ASS'Y - C
TRAY SW (CENTER) S304
TRAY SW (FRONT) S305
TRAY SW (REAR) S313
TO SUB CODE PCB ASS'Y
TO DISPLAY PCB ASS'Y
P103
P104
J013
J014
J101
J011
J402
P042 (RED)
P082 (WHT)
MUTG
EXCK
SBSO
SCOR
WFCK
GND
TRYC
TRYO
WREQ
DT IN
DT OUT
CLK (SIO)
R/W
RESET
U11
U12 (DIGITAL ADDER)
U14
U15
XL1 16.9344MHz
U101
U201
U102
U103
U104
U202
U203
U204
FILTER PCB ASS'Y
U601~U603 : NJM5532D
U601
U602
U603
IN
OUT
GND
U1
U2
U3
U4
U5
U6
U7
U8
U9
U10
U13
Q1
Q2
Q3
Q4
Q5
Q6
Q7
Q8
Q9
Q10
RL101
RL201
F3, F4
U.S.A., CANADA : 1A 250V SLOW BLOW
EUROPE, U.K., AUSTRALIA : T1A 250V
JAPAN, GENERAL EXPORT : SHORTING
P032 (WHT)
J302
TO SERVO PCB ASS'Y
J012
P102 (RED)
TO SUB CODE PCB ASS'Y
P041 (WHT)
J401
TO DISPLAY PCB ASS'Y
P031 (WHT)
J301
TO SERVO PCB ASS'Y
LASER ON/OFF
LSI PCB ASS'Y
J015
J016
P105 (BLK)
TO SUB CODE PCB ASS'Y
AUDIO PCB ASS'Y
PLL TEST
XL2 4.19MHz
(POWER MUTE)
EMPHASIS
J001
VCO
ZD-


7
8
9
10
U601 (1/2)
U601 (2/2)
U602 (1/2)
U602 (2/2)
U603
NJM5532D
U105
U205
U106 (1/2)
U106 (2/2)
U6
U7
U8
U9 (1/2)
U9 (2/2)
Q5
Q6
P013 (WHT)
P012 (BLK)
P102 (WHT)
P101 (BLK)
OUTPUT
VR PCB ASS'Y
FIXED
OUTPUT
VARIABLE
P014 (RED)
VOLUME MOTOR
P081 (BLK)
TRAY MOTOR
HEADPHONE PCB ASS'Y
P011 (WHT)
P101 (WHT)
PHONES
EMPHASIS
MUTING
RL101
RL201
PLL TEST
J016
TO SUB CODE PCB ASS'Y
AUDIO PCB ASS'Y
GND
OUT

U1	µPC78M15
U2	µPC7915H
U3, U4	µPC78M05
U5	µPC7905H
U6, U7	BA6109
U8	NJM072D
U9	M5218P
U10	µPD74HC04C
U11	CX23034
U12	DIGITAL ADDER IC
U13	TC74HC74
U14	µPD74CU04C
U15	TC74HC74P
U101, U201	PCM53 JP-V
U102, U202	NJM072DE
U103, U203	NJM072DE
U104, U204	µPD4053BC
U105, U205	NJM5534D
U106	M5216L

Q1	2SB772P
Q2	2SA683Q
Q3	2SA1115F
Q4, Q5	2SC2603F
Q6	2SC2603F
Q7	2SC2060Q
Q8	2SA1115F
Q9	2SC2060Q
Q10	2SA1115F
D1, D2	2W02
D3, D4	DS135E
D5 ∼ D10	1S2473
D12, D13	1S2473
DZ1	RD30EB2
DZ2	RD6.2EB2
DZ3	RD5.6EB2
DZ4	RD8.2EB2
DZ5	RD5.6EB2
DZ101	RD7.5EB2
DZ102, DZ202	RD5.1EB2
DZ201	RD10EB2

ZD-6000 Compact Disc Player

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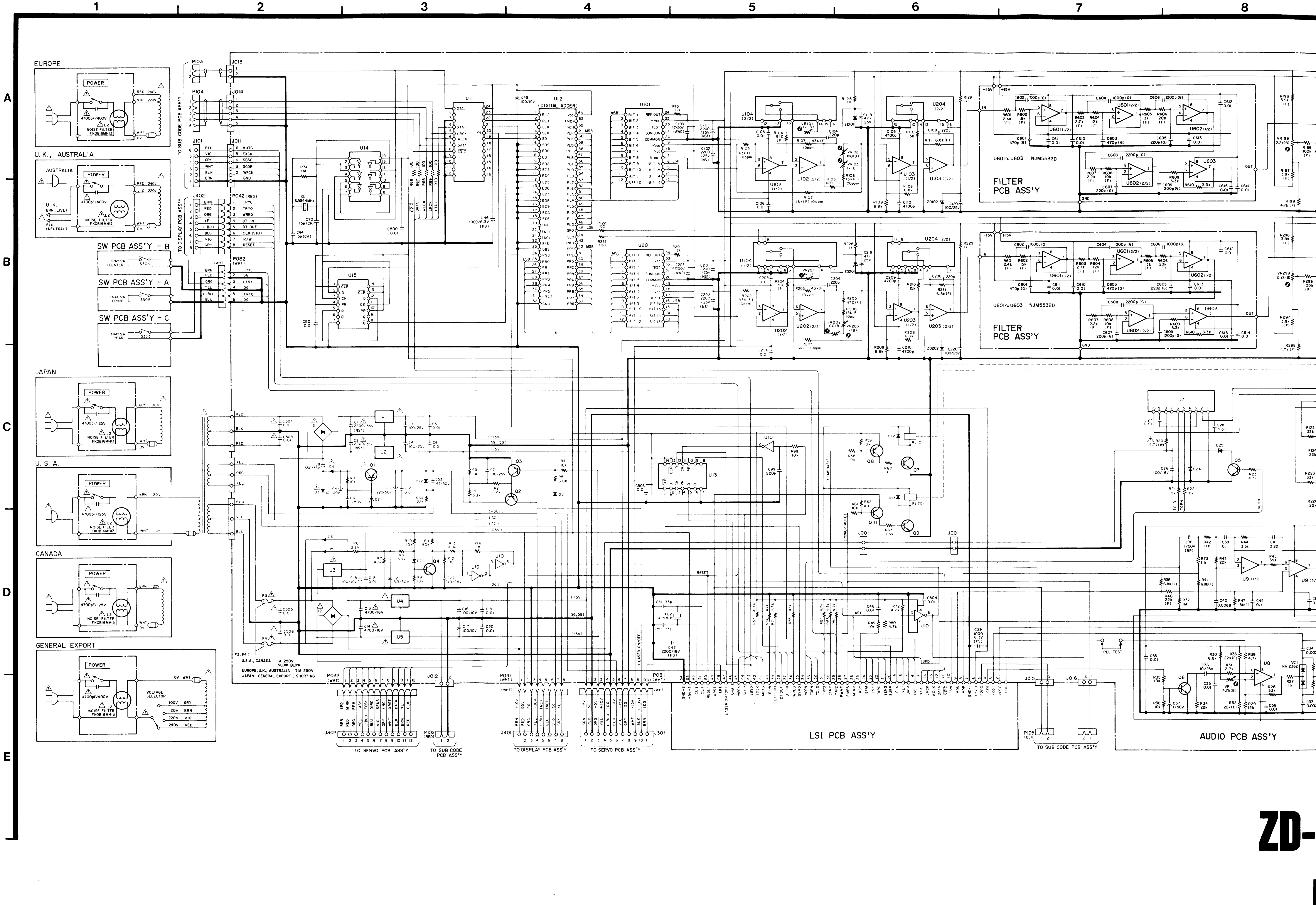
TEAC SCHEMATIC DIAGRAM ZD-4000 AUDIO PCB


1
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3
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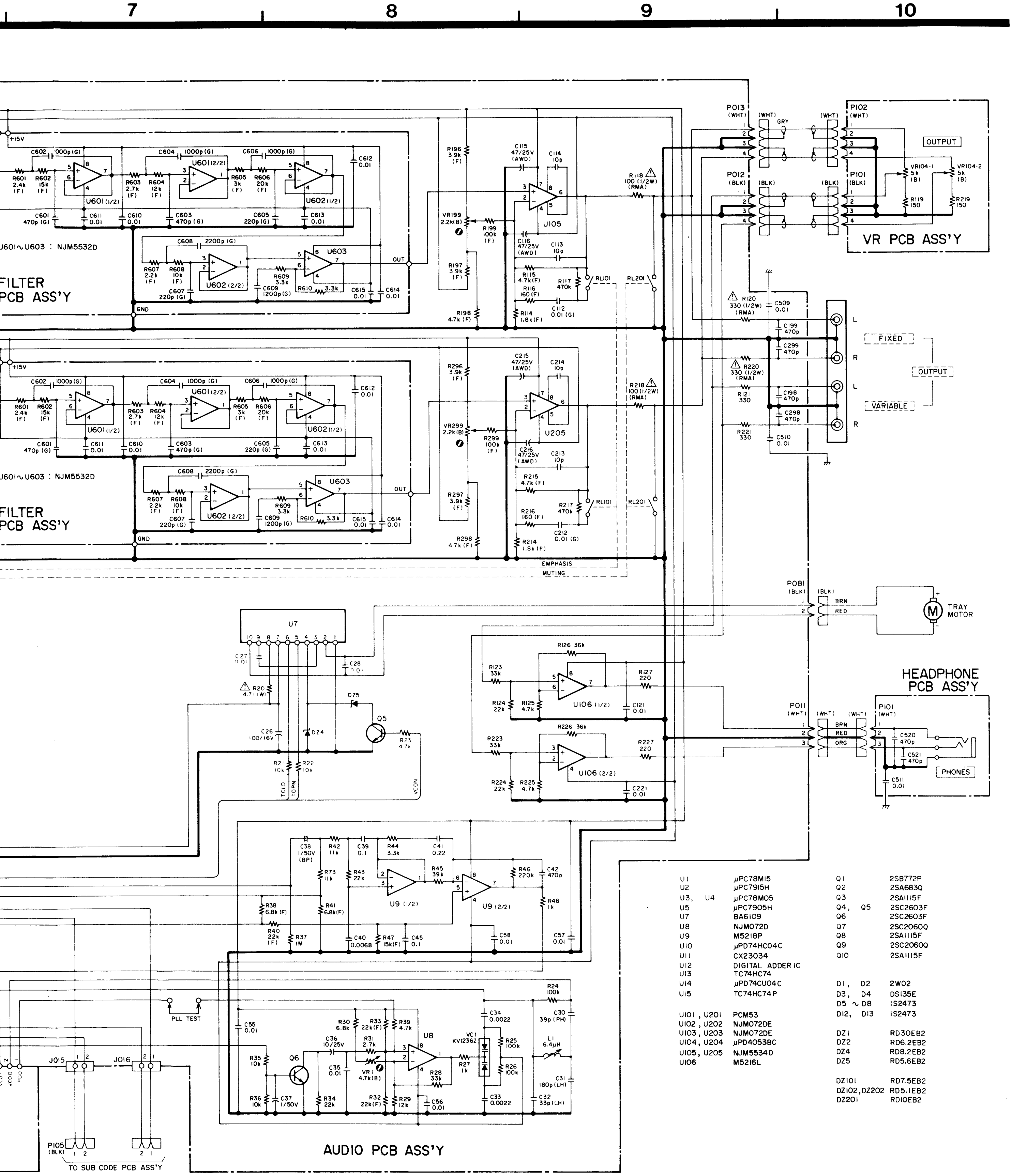
5
6
7
8
A
B
C
D
E
EUROPE
U.K., AUSTRALIA
AUSTRALIA
U.K. BRN(LIVE)
BLU (NEUTRAL)
JAPAN
U.S.A.
CANADA
GENERAL EXPORT
POWER
4700pF/400V
4700pF/125V
NOISE FILTER FKOBI6MHI3
VOLTAGE SELECTOR
SW PCB ASS'Y - B
SW PCB ASS'Y - A
SW PCB ASS'Y - C
TRAY SW (CENTER) S304
TRAY SW (FRONT) S305
TRAY SW (REAR) S303
TO SUB CODE PCB ASS'Y
TO DISPLAY PCB ASS'Y
P103
P104
J013
J014
J101
J011
J402
P042
P082
U11
U12 (DIGITAL ADDER)
U14
U15
XL1 16.9344MHz
U101
U201
U102
U103
U104
U202
U203
U204
U601
U602
U603
U601~U603 : NJM5532D
FILTER PCB ASS'Y
U1
U2
U3
U4
U5
U7
U8
U9
U10
U13
Q1
Q2
Q3
Q4
Q5
Q6
Q7
Q8
Q9
Q10
F3, F4 : U.S.A., CANADA : 1A 250V SLOW BLOW
EUROPE, U.K., AUSTRALIA : T1A 250V
JAPAN, GENERAL EXPORT : SHORTING
P032
J302
TO SERVO PCB ASS'Y
P102
J012
TO SUB CODE PCB ASS'Y
P041
J401
TO DISPLAY PCB ASS'Y
P031
J301
TO SERVO PCB ASS'Y
LSI PCB ASS'Y
J015
J016
P105
TO SUB CODE PCB ASS'Y
AUDIO PCB ASS'Y
PLL TEST
J001
RESET
LASER ON/OFF
ZD-


7
8
9
10
FILTER PCB ASS'Y
FILTER PCB ASS'Y
U601～U603 : NJM5532D
U601～U603 : NJM5532D
U105
U205
U106 (1/2)
U106 (2/2)
U7
U8
U9 (1/2)
U9 (2/2)
Q5
Q6
P013 (WHT)
P012 (BLK)
P102 (WHT)
P101 (BLK)
OUTPUT
VR104-1 5k (B)
VR104-2 5k (B)
VR PCB ASS'Y
FIXED
OUTPUT
VARIABLE
L
R
L
R
P081 (BLK)
BRN
RED
TRAY MOTOR
HEADPHONE PCB ASS'Y
P011 (WHT)
P101 (WHT)
BRN
RED
ORG
PHONES
EMPHASIS
MUTING
RL101
RL201
GND
OUT
+15V
TCLD
TOPN
VCON
PLL TEST
J015
J016
P105 (BLK)
TO SUB CODE PCB ASS'Y
AUDIO PCB ASS'Y

U1	µPC78M15
U2	µPC7915H
U3, U4	µPC78M05
U5	µPC7905H
U7	BA6109
U8	NJM072D
U9	M5218P
U10	µPD74HC04C
U11	CX23034
U12	DIGITAL ADDER IC
U13	TC74HC74
U14	µPD74CU04C
U15	TC74HC74P
U101, U201	PCM53
U102, U202	NJM072DE
U103, U203	NJM072DE
U104, U204	µPD4053BC
U105, U205	NJM5534D
U106	M5216L

Q1	2SB772P
Q2	2SA683Q
Q3	2SA1115F
Q4, Q5	2SC2603F
Q6	2SC2603F
Q7	2SC2060Q
Q8	2SA1115F
Q9	2SC2060Q
Q10	2SA1115F
D1, D2	2W02
D3, D4	DS135E
D5 ∿ D8	1S2473
D12, D13	1S2473
DZ1	RD30EB2
DZ2	RD6.2EB2
DZ4	RD8.2EB2
DZ5	RD5.6EB2
DZ101	RD7.5EB2
DZ102, DZ202	RD5.1EB2
DZ201	RD10EB2

ZD-4000 Compact Disc Player

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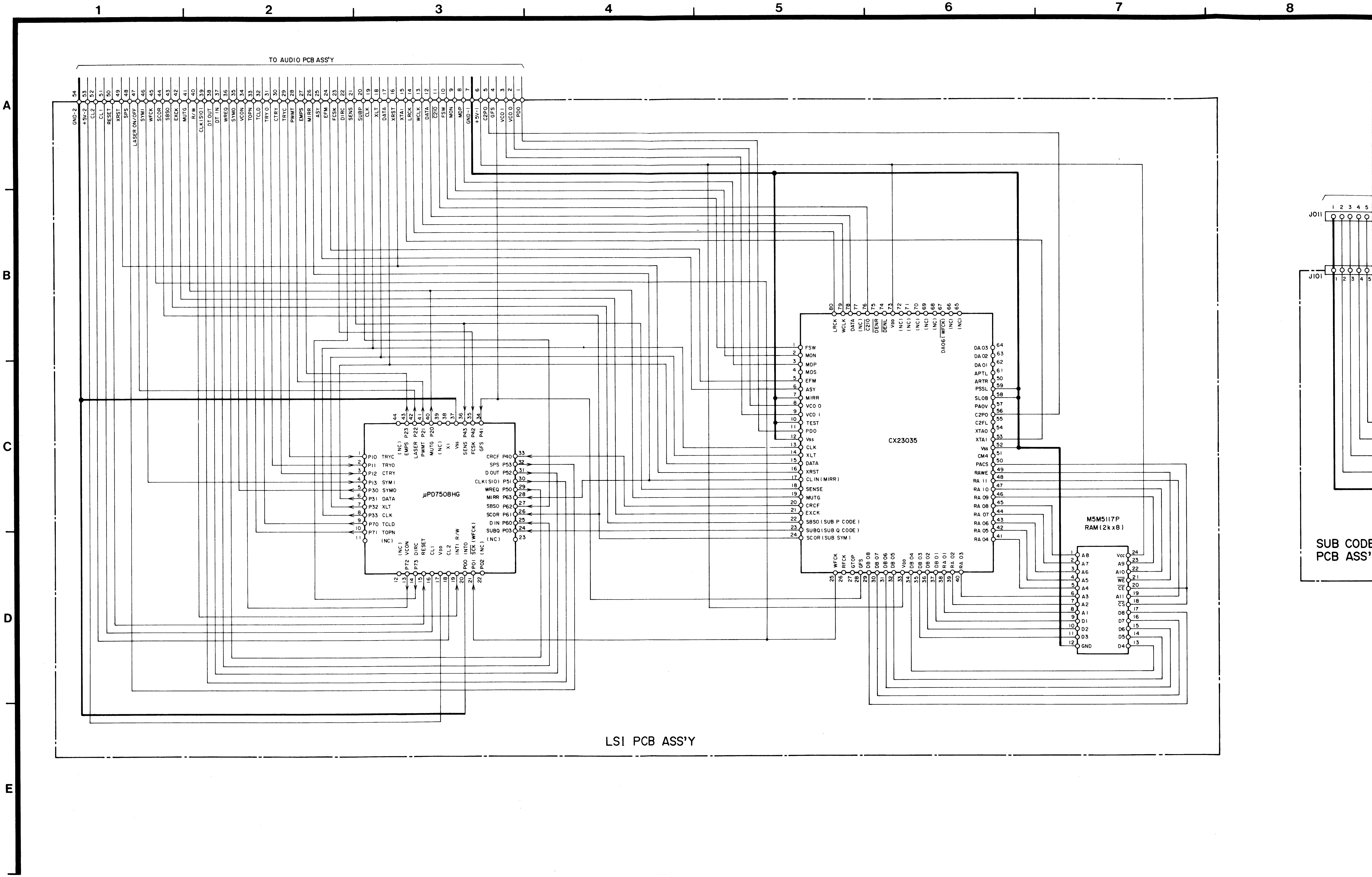
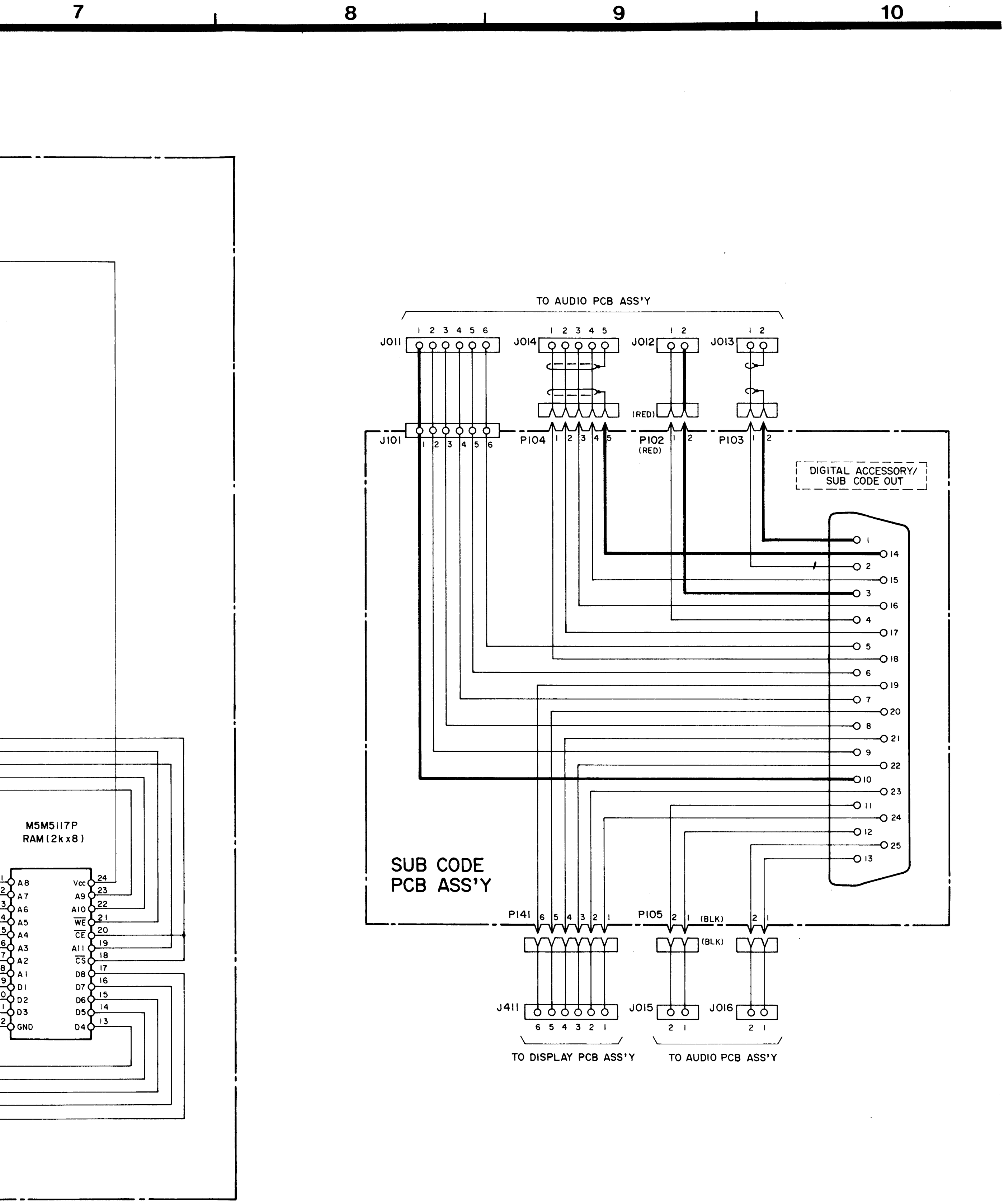
TEAC SCHEMATIC DIAGRAM **ZD-6000/ZD-4000** LSI, SUB CODE PCB


1
2
3
4
5
6
7
8
A
B
C
D
E
TO AUDIO PCB ASS'Y
GND-2
+5V-2
CL2
CL1
RESET
XRST
SPS
LASER ON/OFF
SYMI
WFCK
SCOR
SBSO
EXCK
MUTG
R/W
CLK(SIO)
DT OUT
DT IN
WREQ
SYMO
VCON
TOPN
TCLO
TRYO
CTRY
TRYC
PWMT
EMPS
MIRR
ASY
EFM
FCSK
DIRC
SENS
SUBP
CLK
XLT
DATA
XRST
XTAI
LRCK
WCLK
DATA
C210
FSW
MON
MDP
GND-1
+5V-1
C2PO
GFS
VCO I
VCO O
PDO
µPD7508HG
CX23035
M5M5117P
RAM(2k x 8)
J011
J101
SUB CODE
PCB ASS'Y
LSI PCB ASS'Y

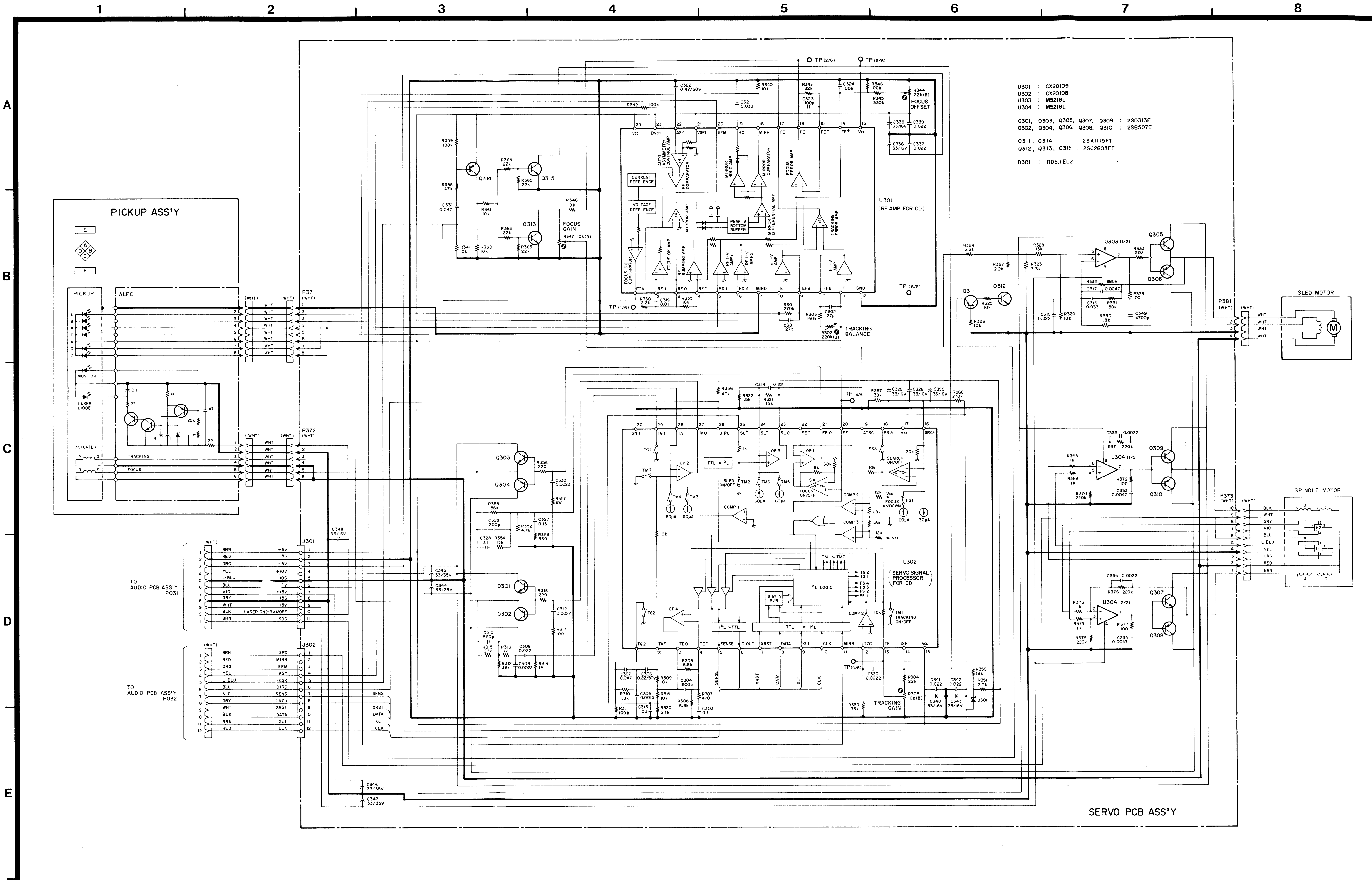

7
8
9
10
M5M5117P
RAM (2k x8)
A8
A7
A6
A5
A4
A3
A2
A1
D1
D2
D3
GND
Vcc
A9
A10
WE
CE
A11
CS
D8
D7
D6
D5
D4
TO AUDIO PCB ASS'Y
J011
J014
J012
J013
(RED)
J101
P104
P102
(RED)
P103
DIGITAL ACCESSORY/
SUB CODE OUT
SUB CODE
PCB ASS'Y
P141
P105
(BLK)
J411
J015
J016
TO DISPLAY PCB ASS'Y
TO AUDIO PCB ASS'Y

ZD-6000/ZD-4000

Compact Disc Player

2nd Issue; December 1986

TEAC SCHEMATIC DIAGRAM ZD-6000/ZD-4000 SERVO PCB

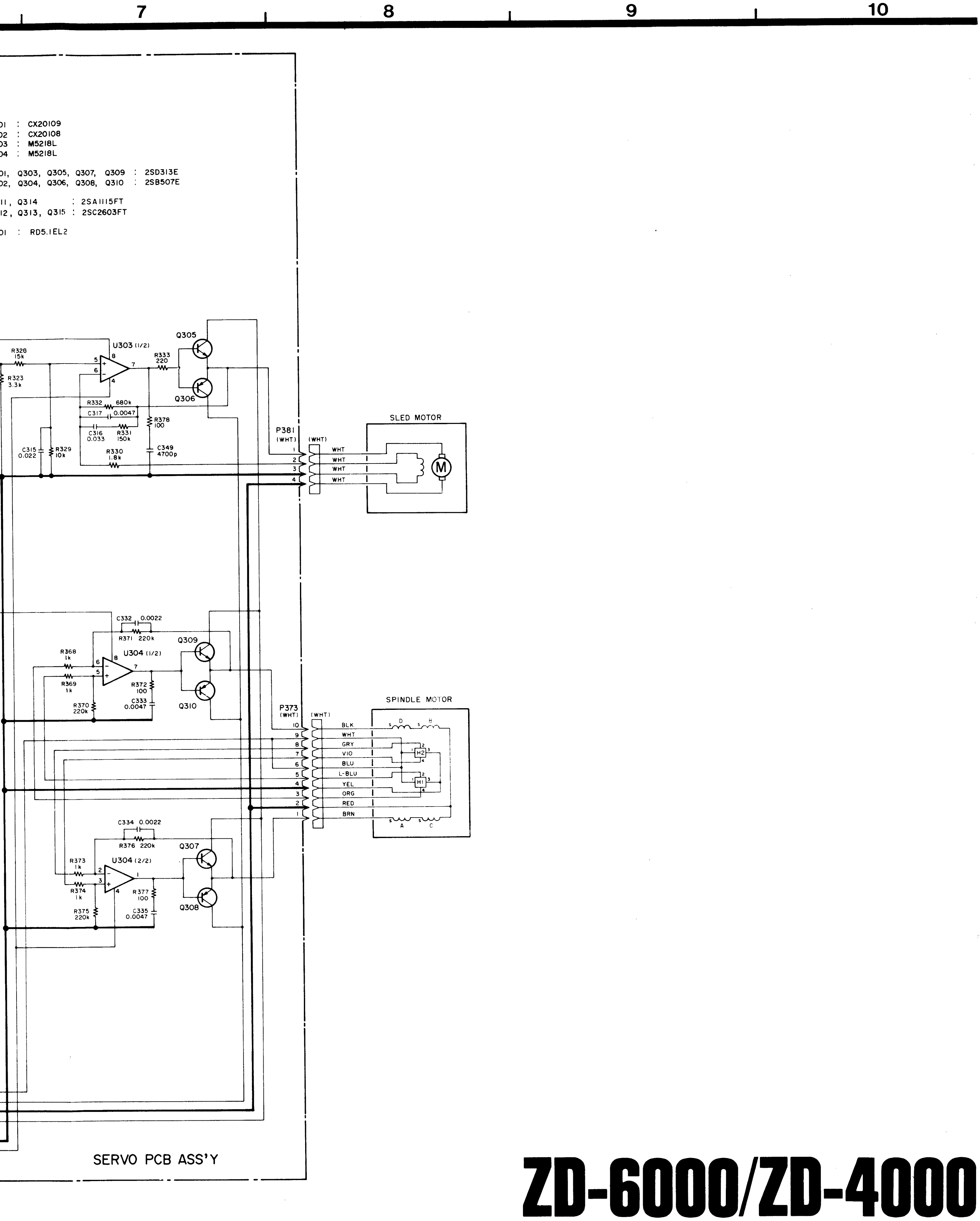

1
2
3
4
5
6
7
8
A
B
C
D
E
U301 : CX20109
U302 : CX20108
U303 : M5218L
U304 : M5218L
Q301, Q303, Q305, Q307, Q309 : 2SD313E
Q302, Q304, Q306, Q308, Q310 : 2SB507E
Q311, Q314 : 2SA1115FT
Q312, Q313, Q315 : 2SC2603FT
D301 : RD5.1EL2
PICKUP ASS'Y
PICKUP
ALPC
MONITOR
LASER DIODE
ACTUATER
TRACKING
FOCUS
P371 (WHT)
P372 (WHT)
U301 (RF AMP FOR CD)
CURRENT REFELENCE
VOLTAGE REFELENCE
AUTO ASYMMETRY CONTROL AMP
RF COMPARATOR
MIRROR HOLD AMP
MIRROR COMPARATOR
FOCUS ERROR AMP
MIRROR AMP
PEAK & BOTTOM BUFFER
MIRROR DIFFERENTIAL AMP
TRACKING ERROR AMP
FOCUS OK COMPARATOR
FOCUS OK AMP
RF SUMMING AMP
RF I-V AMP
E I-V AMP
F I-V AMP
FOCUS GAIN R347 10k(B)
FOCUS OFFSET
TRACKING BALANCE R302 220k(B)
TP (1/6)
TP (2/6)
TP (3/6)
TP (4/6)
TP (5/6)
TP (6/6)
U302 (SERVO SIGNAL PROCESSOR FOR CD)
I²L LOGIC
8 BITS S/R
TTL → I²L
I²L → TTL
SLED ON/OFF
FOCUS ON/OFF
FOCUS UP/DOWN
SEARCH ON/OFF
TRACKING ON/OFF
TRACKING GAIN R305 10k(B)
U303 (1/2)
U304 (1/2)
U304 (2/2)
P381 (WHT)
SLED MOTOR
P373 (WHT)
SPINDLE MOTOR
J301
J302
TO AUDIO PCB ASS'Y P031
TO AUDIO PCB ASS'Y P032
BRN +5V
RED 5G
ORG -5V
YEL +10V
L-BLU 10G
BLU -7V
VIO +15V
GRY 15G
WHT -15V
BLK LASER ON(-9V)/OFF
BRN SDG
BRN SPD
RED MIRR
ORG EFM
YEL ASY
L-BLU FCSK
BLU DIRC
VIO SENS
GRY (NC)
WHT XRST
BLK DATA
BRN XLT
RED CLK
SERVO PCB ASS'Y

01 : CX20109
02 : CX20108
03 : M5218L
04 : M5218L

01, Q303, Q305, Q307, Q309 : 2SD313E
02, Q304, Q306, Q308, Q310 : 2SB507E

11, Q314 : 2SA1115FT
12, Q313, Q315 : 2SC2603FT

01 : RD5.1EL2


7
8
9
10
R328 15k
R323 3.3k
U303 (1/2)
R333 220
Q305
Q306
R332 680k
C317 0.0047
R378 100
C316 0.033
R331 150k
C315 0.022
R329 10k
R330 1.8k
C349 4700p
P381 (WHT)
(WHT)
WHT
WHT
WHT
WHT
SLED MOTOR
M
C332 0.0022
R371 220k
Q309
R368 1k
U304 (1/2)
R369 1k
R372 100
R370 220k
C333 0.0047
Q310
P373 (WHT)
(WHT)
SPINDLE MOTOR
BLK
WHT
GRY
VIO
BLU
L-BLU
YEL
ORG
RED
BRN
D
B
A
C
H2
H1
C334 0.0022
R376 220k
Q307
R373 1k
U304 (2/2)
R374 1k
R377 100
R375 220k
C335 0.0047
Q308
SERVO PCB ASS'Y

ZD-6000/ZD-4000

Compact Disc Player

2nd Issue; December 1986